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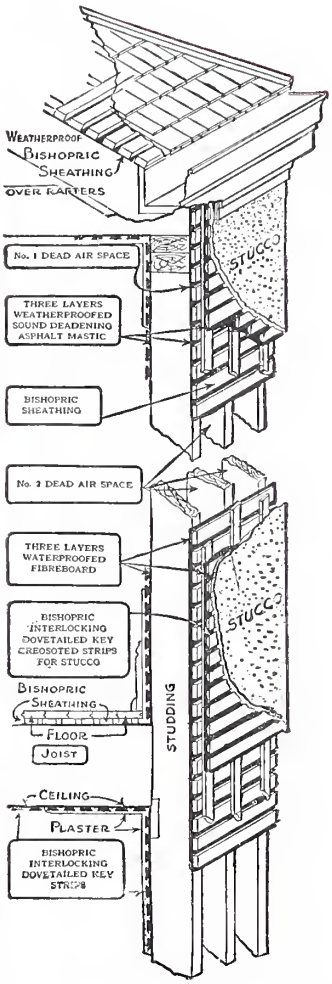
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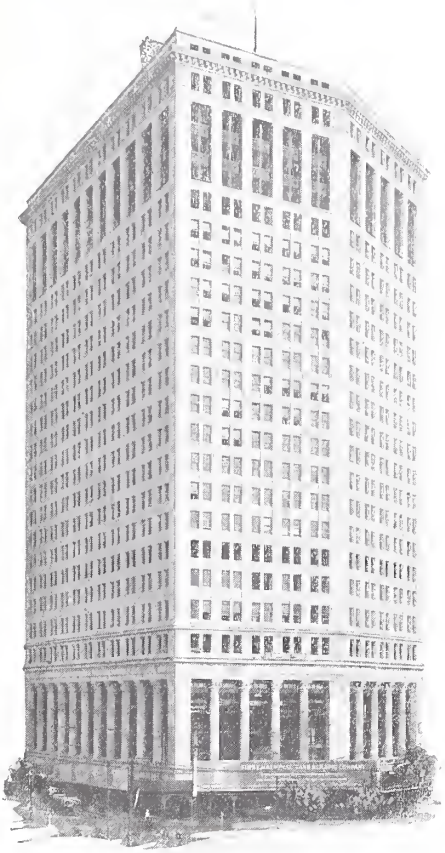
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First National Bank Building of Detroit is but one of many beautiful structures that have been laid up in "the cement that nature mixed."

Architect; Albert Kahn, Detroit.
Contractors: The Foundation Co.

The Cement that nature mixed

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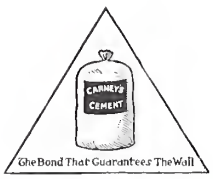
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District Sales Offices:

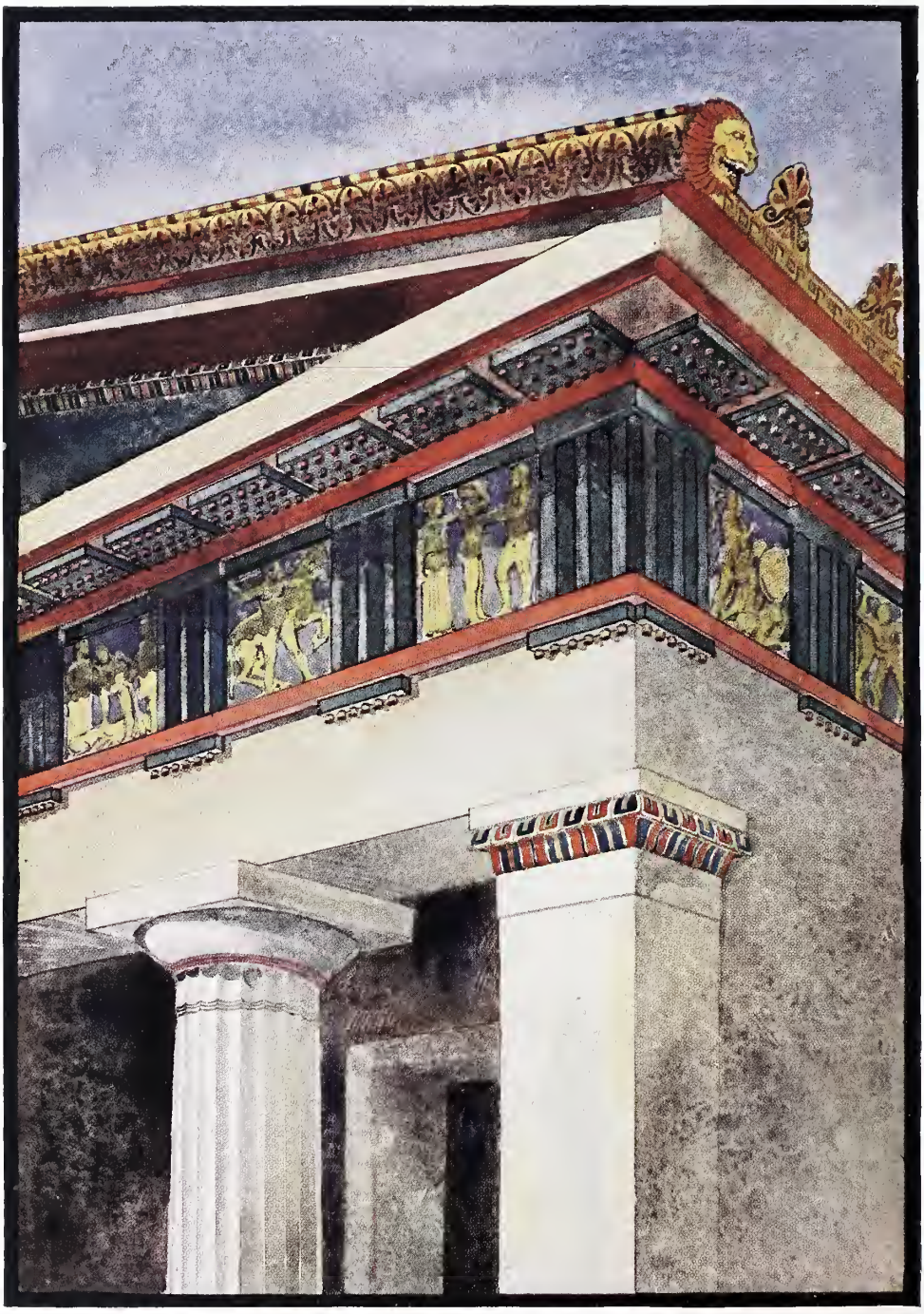
The Carney's Cement Sales Co., Leader-News Bldg., Cleveland; Chamber of Commerce Bldg., Chicago; Omaha National Bank Bldg., Omaha; Syndicate Trust Bldg., St. Louis; **Jas. Quinn, Jr.,** Book Bldg., Detroit; **Carney's Cement Co.,** Builders' Exchange, Minneapolis.

Specifications: 1 part Carney's Cement, 3 parts sand; no lime.

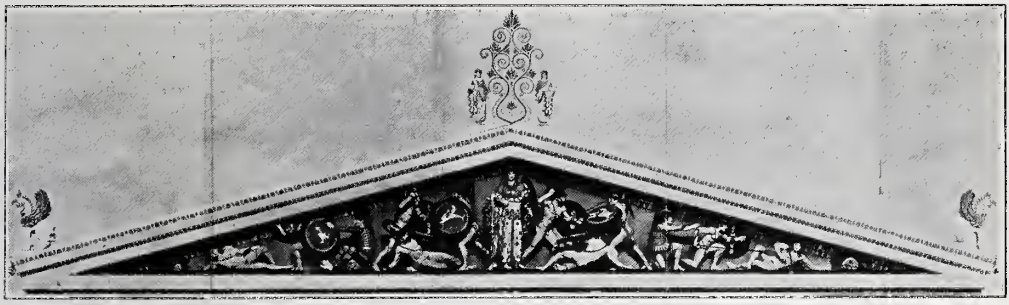


CARNEY'S CEMENT

For Brick and Tile Mortar



The Temple of Zeus at Olympia, after the reconstruction of Curtius & Adler with metopes added.



1. WEST PEDIMENT OF THE TEMPLE OF APHAIA, ON THE ISLAND OF AEGINA. FÜRTWANGLER'S RECONSTRUCTION.

ARCHITECTVRAL POLYCHROMY

BY LEON V SOLON

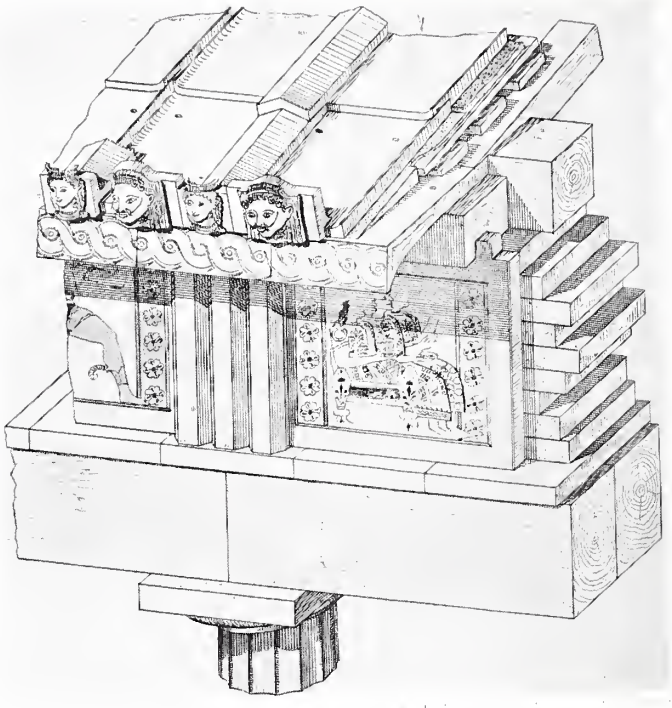
PART I

The Conditions which Control the Introduction of Color

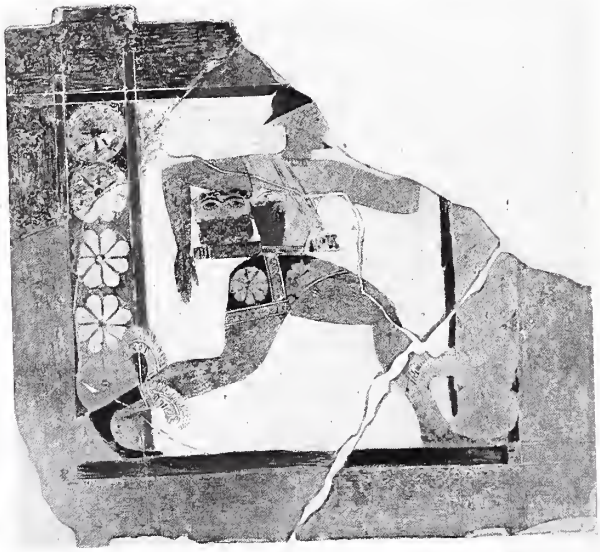
THE element of confusion which accompanies an inexperienced attempt to introduce color in a façade arises in most cases from ignorance of the physical properties of color, and their relation to and reaction upon the architectonic values established in design. The major difficulties presenting themselves in practice may be arranged in two main groups. The first concerns the selection of those architectural items to which the application of color may advantageously be made. The second includes the formulation of a color technique; this, besides dealing with the planning of colors upon ornamental form, and with the conformation of contour and relief for the reception of color, involves an answer to the question whether architectural polychromy should include tone gradation or be confined to uniform tones.

The intention which actuates the use of color in the various arts, to realize æsthetic objectives, functions in two general directions. In the pictorial arts, color stimulates imaginative processes; in the applied arts, the endowment of substance or surface with a species of scenic-value or sense-appeal is the factor determining the methods of application and the quality of color. For the painter it is the most pliable means with which the complexities of effect may be reconstituted, in such guise that his temperament records, on contemplation of his finished work, a reaction equivalent to that experienced during the initial phases of inspiration. The function of color in architecture is of a less involved character; it contributes an extraneous form of beauty to that which is purely architectural; the gratification of the æsthetic sense is visual rather than intellectual, the use of color being free from the intent to stimulate reflex processes.

Color in its architectural relation must naturally be classified as a decorative resource. Each decorative resource has the capacity to realize a distinctive type of effect unattainable by the legitimate use of any other decorative means. Our

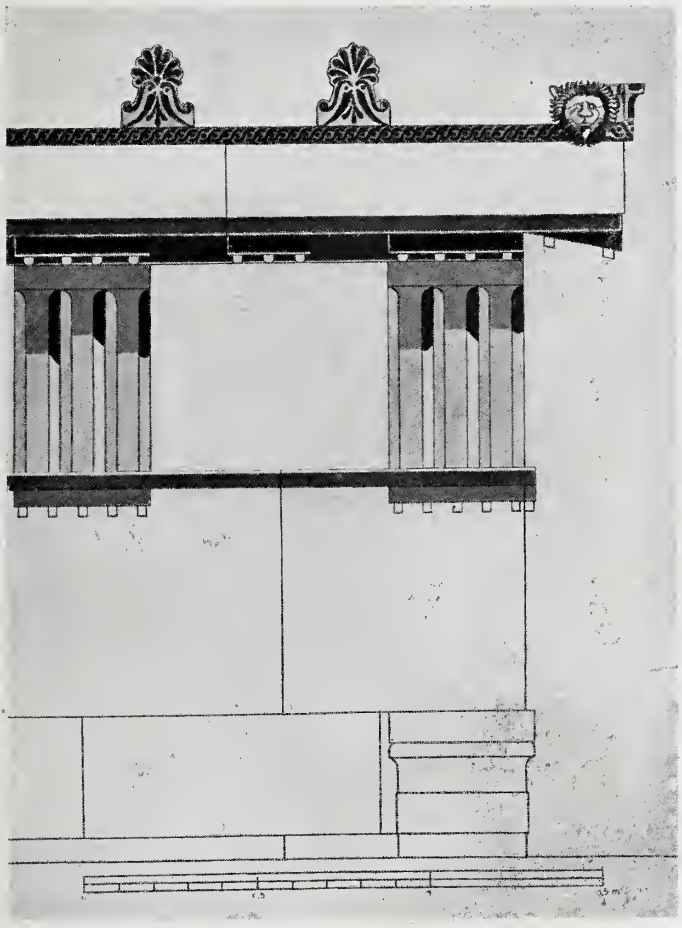


2. TEMPLE OF APOLLO: WOOD AND POLYCHROME TERRA COTTA. RECONSTRUCTION BY KAWERAU.



3. TERRA COTTA METOPE IN POLYCHROME FROM TEMPLE OF APOLLO.

initial steps in research are thus prescribed. It is first necessary to identify those forms of effect which are expressive of the decorative function of polychromy in architectural effect; this can only be effected through an acquaintance with the action and reaction of color upon architectural values and properties. It is, then, necessary to formulate a technique which will serve as the mechanism for effect.



4. THE "OLD" TEMPLE AT AEGINA. FÜRTWANGLER'S RECONSTRUCTION.

The prime capability of color in architecture is, that it is the most potent of all vehicles for emphasis. Color possesses an inherent property recognized in its scientific aspect as its radiant energy. This form of energy is capable of a control which enables it to attain results of an æsthetic character; the phenomena which characterize it produce direct optical results in their decorative operation; but these results react indirectly upon certain vital properties in architectural design unless subjected to rigid regulation. It is necessary, therefore, to discover the nature and location of those reactions upon elements of architectural design which must not suffer depreciation through the presence of color, in order that the results proceeding from the use of color may be uniformly advantageous.

A major objective is sought, in all architectural design, to which each contributory element of effect is instinctively



5. NORTHWEST PEDIMENT OF THE PARTHENON. FENGER'S RECONSTRUCTION. POLYCHROME TREATMENT OF THE FIGURES TO BE DISREGARDED.



6. PORTICO OF THE PARTHENON.
FENGER'S RECONSTRUCTION.

subordinated; it consists in the creation of an aspect of harmonious adjustment between the component structural forces, in order that a sense of statical force may predominate; by statical force is meant that impression of equilibrium resulting from a perfect coördination of the varied forces sensed in an architectural composition. If strong emphasis, in the guise of color, is added to a façade in which the effect of these varied forces conveys an impression of satisfactory adjustment, it is obviously imperative that color location and its decorative development must have a clearly recognized relation to values previously established. Since emphasis constitutes a focus of effect, the inclusion of a predominant element such as polychromy, capable of imparting the maximum degree of accentuation to any member, must not occur as an unrelated and superadded artistic activity.

The visual impression resulting from the presence of color upon any architectural member is antithetical to its appearance of structural strength; this latter quality is *diminished* relatively to the degree of color elaboration. However, it does not follow that the presence of color in a façade is consequently antagonistic to this vital element in architectural design. On the contrary, color may accentuate the extremes of certain æsthetic qualities present in a work of art. It may contribute by contrast to the sense of statical force in the main conception, by augmenting the impression of lightness in members that are secondary or supported, thereby intensifying the structural integrity of those architectural items which are essentially sustaining.

The decorative capacities of color in architecture may be grouped under three main activities:

1. Its inherent chromatic energy, which introduces a quality of decorative emphasis in any item upon which it figures.

2. Its decorative contribution to architectural effect, by the introduction of a decorative interest distinct from the purely architectonic.

3. Its influence upon structural attributes, by accentuating qualities of delicacy and elegance in architectural members in which those elements are characteristic.

The Use of Color in Historic Types

The historic types of architecture developed between archaic eras and modern times may be roughly classed as those wherein racial instincts achieved a spontaneous expression and those, dating from the sixteenth century in Europe, which are in the majority of cases classic derivatives. In many of the former, color figures prominently on façades as an important factor in their creators' content of beauty; in the latter, it is almost entirely absent. In races and ages where an uninfluenced form of expression was possible, the sensuous appeal of color was a valuable medium for imparting to the minds of the masses those impressions and influences which constituted so important a function in the social message conveyed through architectural design. During the later period, with the revival of the classic type of design, another set of æsthetic ideals controlled imaginative effort. In the Renaissance of Italy, the basic interest discovered in the classic models was that of organized proportions, which did not exist in the Byzantine, Romanesque or Gothic. We must also remember that, with the inception of this style, there was a revision of values in the media of effect, and that masses and detail were subject to a changed angle of consideration; as in painting, so also in architecture, the qualities of light and shade striven for were radically different from those sought by stylistic predecessors. Leonardo da Vinci introduced the most revolutionary innovation in pictorial effect by demonstrating that the composition of groups and the focus of interest in details could be effected by chiaro-oscuro. It can readily be appreciated why, when decorative interest was focussed by delicate transitions and accents of light and shade, so forcibly contrasting a factor as color was omitted, as being a component item of a quality of effect achieved through the medium of another group of æsthetic ideals; in addi-

tion to this, there were no longer any traces of color on any of the examples to serve as guides and references to its original presence; the fact that color was thus used, could be gathered only from the vague statements of a few classic authors—data in all probability ignored by the pioneers of the movement. This argument applies also to the later derivations of the eighteenth and nineteenth centuries, which accepted the Italian interpretation of the classics, in equal ignorance of the decorative entity of the original types.

Research among ancient systems of polychromy, in order to discover principles upon which to found practice and to develop technique, must be directed by a simple consideration that spares us much fruitless toil. As color action and reaction must be adjusted in a direct relation to architectonic values, the solution to our difficulties can only exist in that stylistic type which most nearly embodies our own æsthetic standards and ideals. This basis of selection eliminates all those polychromic types which exert only a cultural interest, such as the Assyrian, Egyptian, Hindu, Mongolian and other oriental and exotic architectural expressions. By this process of elimination we find our hopes centered upon Greek polychromy as practiced during the sixth, fifth and fourth centuries B. C., during which period Greek architecture achieved its most spontaneous and virile expression. The untiring enthusiasm, patience and energy of modern Greek archæologists have accumulated sufficient authenticated data bearing upon our field of research to test any theories in the light of a series of examples.

The most forcible impression received from an initial grouping of Greek architectural polychrome data, is the appearance of standardization conveyed by a uniformity of method governing the location of color on façades during these three great centuries. The next impression, resulting from an exhaustive examination of color planning upon ornamental detail, lies in their rigid adherence to certain decorative conventions: Greek conservatism is so consistently apparent for three centuries despite radical changes in architectural types, that fixed procedure by a race so artistically versatile can only be explained by the surmise that they embodied certain basic aesthetic or physical essentials, which could be neither dispensed with nor replaced in practice.

An analysis of the Greek system of color location and composition on the façade reveals the existence of architectural principles and methods evolved through an intuitive knowledge of the action of radiant energy in color when a group of pigments are assembled decoratively, and the direct relation of this energy to specific architectonic properties; it is an art based upon an understanding essentially scientific. In their polychromy the Greeks give us yet another instance of their matchless intuition, displayed wherever natural phenomena direct the creation of artistic effects. Under the guidance of this rare form of intuition, the component elements of artistic impulse undergo an automatic process of mutual adjustment, of an order far superior to any procurable by other means. The uniformity in these methods of artistic procedure was not the result of any control arbitrarily enforced, as is reputed to have been the case with creative effort in Greek sculpture; it rather appears as a moral control arising from a conviction that the methods established in practice were so basically sound; that deviation from them must inevitably lead to error.

In this first and introductory part of our treatise on polychromy, it has been necessary to make several statements which call for explanation and discussion; these will be developed as each section of our subject is examined in fuller detail. It will be found that the Greek polychrome method affords a solution of the major difficulties which beset practice today; it teaches us the principles governing color location, color adjustment in ornamentation, and the manipulation of light as the means of developing color interest in the uniformly applied tone—the only form in which color may be used in architecture, as shall be demonstrated in a future issue.

The RESIDENCE of J. P. JEFFERSON, Esq. MONTECITO, CALIFORNIA

Reginald D. Johnson, Architect

AMONG the designs premiated at the 1921 exhibition of the American Institute of Architects was one by Reginald D. Johnson which dealt with a rather unusual problem—the remodeling of a clubhouse into a private residence. The building of the Santa Barbara Club, designed by Francis Wilson, occupied a desirable site, had a general arrangement demanding few changes in plan, and presented a sound yet simple composition in a style suited to the climate. When Mr. Johnson was called upon to develop the clubhouse into a residence for J. P. Jefferson, his task was, therefore, mainly one of pure design. The resulting alterations in plan are inconsiderable, compared with the architectural changes in the exterior and interior of the building and in the landscape work.

On the ground floor the lounge was made the living room, the walls being furred in order somewhat to reduce its size. The dining room was retained, and the ladies' room was turned into a guest room. The men's room is now the library. The service was modified to meet domestic requirements.

The second floor was changed to accommodate a complete suite of rooms of ample dimensions for the owner, including quarters for a personal servant. The original stairhall served a relatively unimportant second floor and was logically a secondary consideration. The house with the master's bedrooms on the second floor required a more important approach and a dignified stairhall was therefore introduced.

A new tile roof conveys a feeling of domestic quality. A stone entrance and new fenestration over it give proper emphasis to the long axial drive, which terminates in a generous forecourt. The living quarters all face towards the rear and are grouped around a most attractive patio, which in turn leads to a lower garden and reflection pool. The statue in the pool is McMonnie's Bacchante.

The drive, main entrance, patio, pool and Bacchante are all on the main axis, which terminates with a view of the Rincon Mountain rising over Montecito Bay.

The garden, although only three years old, gives promise of an unusually attractive development. This work was handled by Paul G. Thiene.

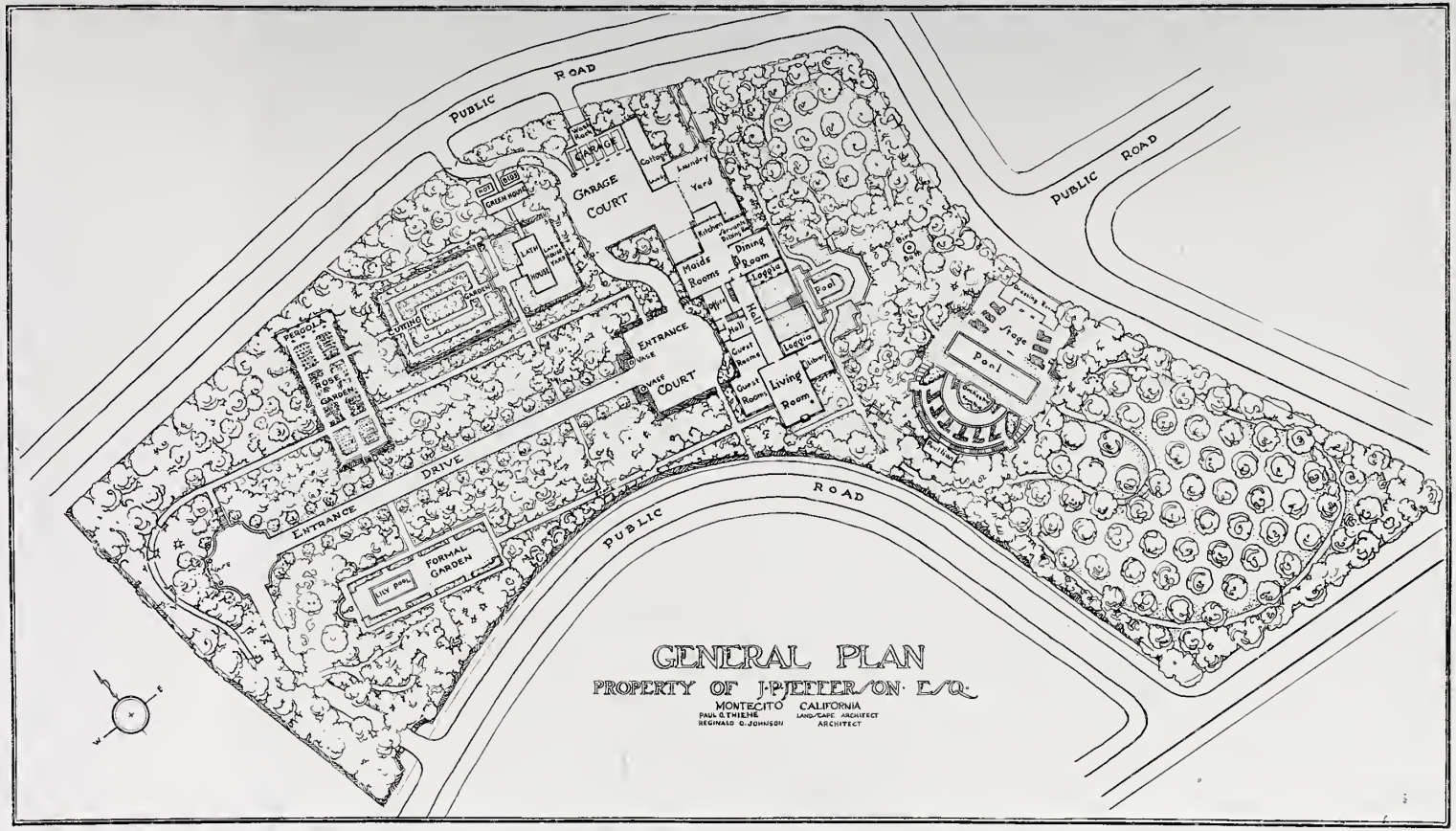
The interiors are restrained and, owing to their size, have a great deal of dignity. In order to avoid stiffness or set feeling, any particular and definite period was ignored, the intention being to furnish agreeable and harmonious backgrounds to the interesting collection of antiques acquired by the owner. This consists of furniture, pottery, brocades and hangings from various countries and periods and is so distributed as to impart a mellow, livable quality to all the interiors.

Oriental pieces form a large part of the furniture, but in no case was any attempt made to recall this in the treatment of the rooms.

The living room is paneled in a manner recalling the framed post and paneled construction of former periods. The wood is pine, scraped in a slightly irregular fashion, and is of an extremely interesting color and texture. The ceiling is shaped to conform to the original roof construction and is treated with bands and panels of very low plaster relief.

The dining room is handled in a modified Italian manner and is held in a deep putty color with a warm glaze. The black and gold marble mantel gives a pleasant contrast to the monotone background of the walls.

The library is of an informal nature and is a livable room of ample dimensions.



RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. PAUL G. THIENE, LANDSCAPE ARCHITECT.



RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. (NEW WORK BY MR. JOHNSON).



RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. (NEW WORK BY MR. JOHNSON).



RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. (NEW WORK BY MR. JOHNSON).



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RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. (PART OF ORIGINAL WORK BY FRANCIS WILSON.)



RESIDENCE OF J. P. JEFFERSON, ESQ., MONTECITO, CAL. REGINALD D. JOHNSON, ARCHITECT. (PART OF ORIGINAL DESIGN BY FRANCIS WILSON.)



MAIN ENTRANCE—HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



DETAIL OVER MAIN ENTRANCE

The HANNA BUILDING AND *The* HANNA BUILDING ANNEX CLEVELAND, OHIO

CHARLES A. PLATT, ARCHITECT

By I. T. Frary

WHEN the Leader-News Building was completed some years ago by Charles A. Platt, it was spoken of as "one of the handsomest and most distinguished office buildings in the country" (Architectural Record, June, 1913,). Attention was called to the exceptional opportunity offered by the large size of its site and by the extreme width of the street upon which it faced, factors favorable to the architect in attaining good scale and using detail with telling effect. To quote again: "The architect was offered the chance to build a skyscraper in which every other value did not have to be sacrificed to that of the vertical dimension. His skyscraper did not need merely to aspire and soar. It could be kept down to the street, and made to look more human and habitable. The vertical dimension is not emphasized. The attempt has been made to keep the building down. The façade is divided into three parts by heavy stringcourses of stone, and it is crowned by a cornice, which definitely discourages any tendency of such a tall structure to mount towards the sky. The stonework has, moreover, been designed for the purpose of giving emphasis to a system of minor vertical lines. The combination between the design of the stonework and that of the windows converts the façade into a kind of decorated pattern, the whole effect of which is to prevent the eye from being captured by the height of the building."

The characterization applied nine years ago to the Leader-News Building is equally true of the Hanna Building, which Mr. Charles A. Platt has just completed for the same owner, the late Mr. Dan R. Hanna. Moreover, the

site of the new building possesses some of the advantages possessed by the site of the old. Both are corner sites, and in both cases each street length is sufficient to avoid the disproportion usual in a fourteen story structure between its vertical and longitudinal dimensions. In the Leader-News Building the height was one hundred and fifty feet, and the lot measures one hundred and sixty feet on one street by two hundred and twenty feet on the other. The Hanna Building is also one hundred and fifty feet, or fourteen stories, high; and the lot on which the main structure is erected measures approximately two hundred feet on both streets.

On the other hand, there are some respects in which the sites differ. The Leader-News Building faces on Superior Avenue, which is one hundred and twenty feet wide and enables an observer on the other side of the street to look at the whole façade without anything like the forshortening which usually occurs when a skyscraper is under observation. The Hanna Building faces on Euclid Avenue, which is not so wide as Superior Avenue and forces an observer on the other side of the street to look up at the façade rather than across at it. Nevertheless, the width of Euclid Avenue is sufficient to give value to architectural effects that would be lost in ordinary cramped city streets.

There is however, a marked contrast between the buildings, due to difference in shape of their sites, for whereas the Leader-News Building is practically rectangular in plan, the Hanna Building is cut back sharply on the west line because of the acute angle which East Fourteenth Street forms with Euclid Avenue. As a result the structure is given a rakish effect in perspective, which the architect has largely overcome by the truncation of the corner. The peculiar shape of the site has, of course, exerted an important influence on the interior plan; instead of two straight lobbies, such as penetrate the Leader-News Building, a single lobby in the Hanna Building curves from street to street and is bisected by the elevator lobby, which runs diagonally from the corner store to the restaurant that occupies the rear of the building. The irregular pockets and angles thus produced have been skillfully handled—so ingeniously indeed that a space originally planned for a barber shop has been taken over for a banking room.

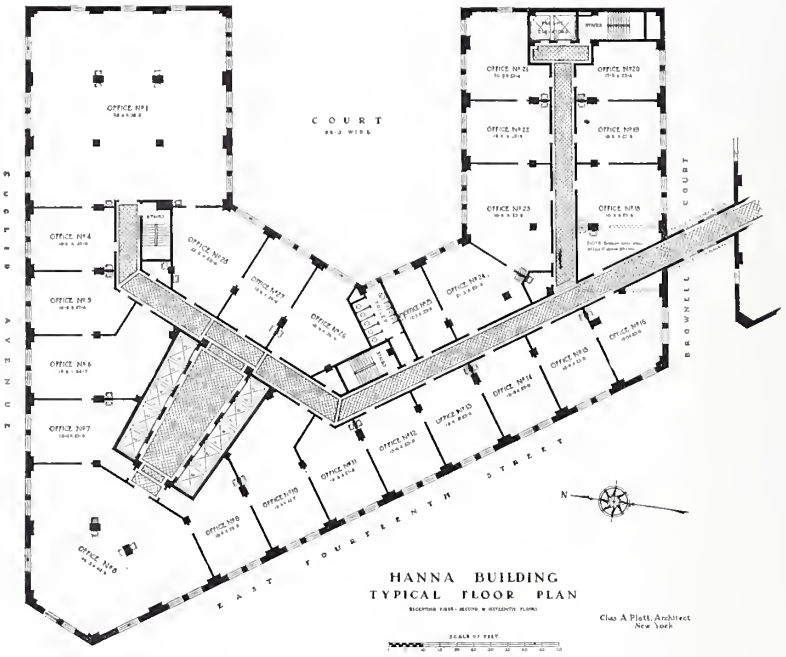
It is natural under the circumstances that the architect should have designed the two buildings along the same general lines. Indeed, the two designs are almost identical, barring the fact that in the case of the Hanna Building a flat stone balcony divides the second from the third floor. The chief purpose of the architect in the new, as in the old, design was to give scale to a façade which would usually be treated either for the purpose of emphasizing the height of the building or without any understanding of the opportunity a façade of one hundred and fifty feet high and two hundred feet long offers for an attempt to prevent the height from overcoming the length of an apparent skyscraper. What Mr. Platt has done in both designs is to pull the whole building together by keeping the vertical dimension down and by treating the stonework in such a way as again to give emphasis to a system of minor vertical lines. The decorative pattern formed by the stonework, which gives the whole façade the effect of a vivid and pleasing screen, counts enormously in the success of the design. In practically all the buildings on city streets which Mr. Platt has designed, he has used a variation of the same general idea. It is an idea which has had an effect on some of his contemporaries and should have influenced more.

Reference to the upper floor plan shows an equally interesting arrangement, with the elevator lobbies on the diagonal axis and the corridors following the other axis of the building. The offices, as shown on the plans, are generous in size and in many cases have been subdivided into smaller desk rooms, each with a window and with a common reception room or passageway paralleling the corridor.

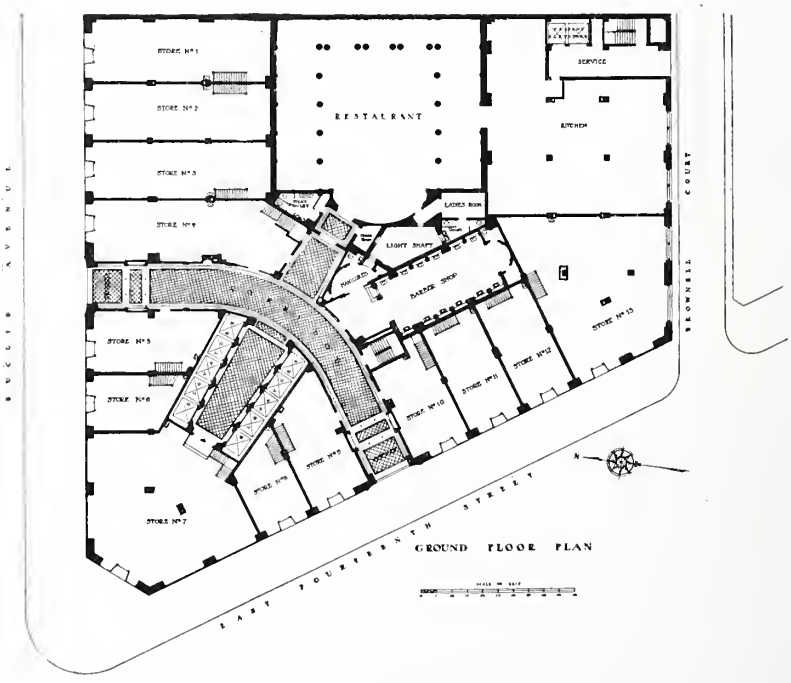
An unusual feature for a commercial building is the large restaurant on the ground floor, just off the lobby. This



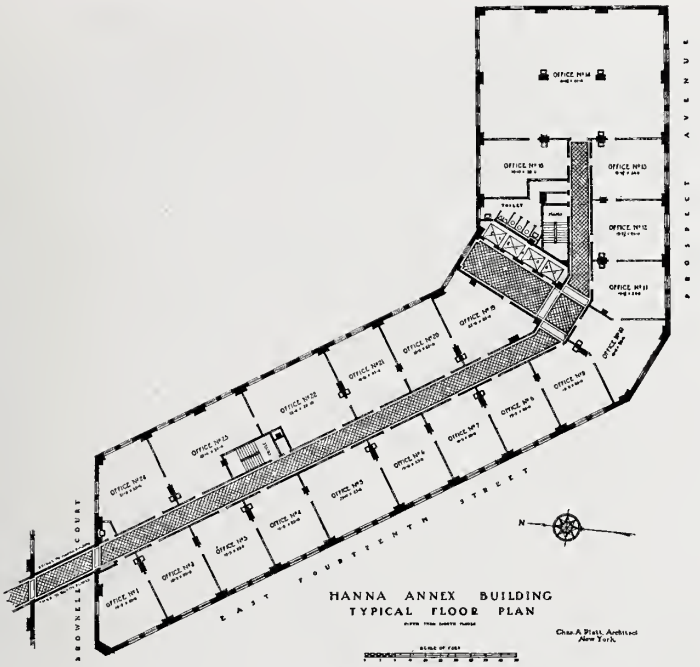
HANNA BUILDING, CLEVELAND OHIO. (FROM ORIGINAL SKETCH). CHARLES A. PLATT, ARCHITECT.



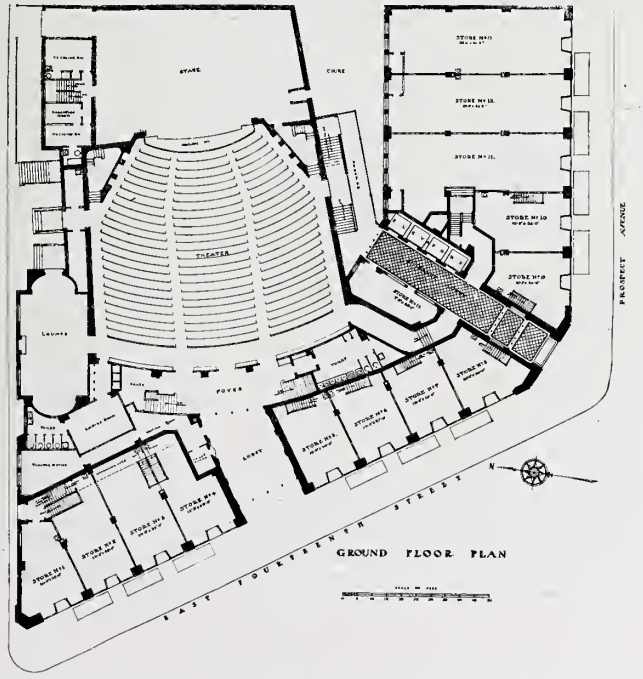
TYPICAL FLOOR PLAN—HANNA BUILDING, CLEVELAND, OHIO
Charles A. Platt, Architect



GROUND FLOOR PLAN—HANNA BUILDING, CLEVELAND, OHIO
Charles A. Platt, Architect



TYPICAL FLOOR PLAN—HANNA BUILDING ANNEX, CLEVELAND, OHIO
Charles A. Platt, Architect



GROUND FLOOR PLAN—HANNA BUILDING ANNEX, CLEVELAND, OHIO
Charles A. Platt, Architect



HANNA BUILDING, CLEVELAND, OHIO.
CHARLES A. PLATT, ARCHITECT.



MAIN ENTRANCE—HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



CORRIDOR—HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



ELEVATOR LOBBY—HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



RESTAURANT—HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.

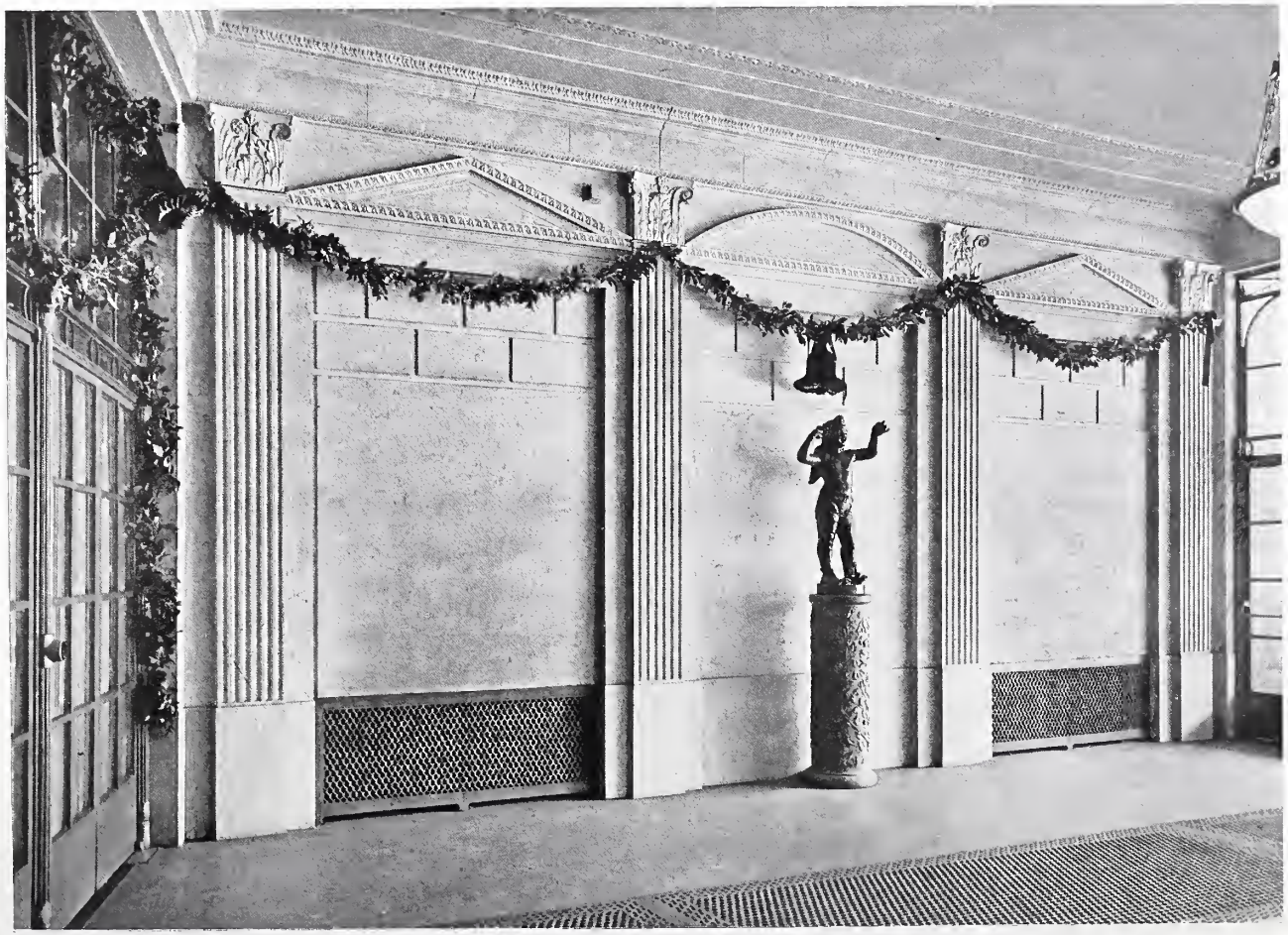


RESTAURANT—HANNA BUILDING, CLEVELAND, OHIO.
Charles A. Platt, Architect.

shows clever planning, for it is almost square in plan and was, in the rough, a most unpromising box necessitating a skylight above and an entrance breaking into one side at an angle of forty-five degrees. To overcome these awkwardnesses, a colonnade was introduced in such a way as to leave low ceilinged aisles on three sides, while the middle is carried up to the height of a second story and is lighted by clerestory windows. A semi-elliptical bay at the west provides a happy solution of the problem created by the diagonal lobby, entrance being effected without consciousness of the awkward angle. The lighting is satisfactory, the large floor space is broken up successfully, and a sense of privacy is produced by the massive columns. The decorative scheme is Pompeian in its origin; and the colors, characteristic of the style, are used largely in bold masses of background in a way to produce a sense of virility that does not overstep the bounds of good breeding.

A confectionery store, adjoining the restaurant and under the same management, is given a somewhat similar treatment, with an equally happy effect. The stores on the ground floor have been fitted up with unusual care, several of them having been turned over to specialists who designed and installed the entire equipment of fixtures and decorations.

To the south of the Hanna Building proper, and separated from it by an alley, is a companion building known as the Hanna Building Annex. This is almost identical in design, and although only eight stories in height at the present time, has been built with foundations and frame work designed to make possible its ultimate construction to a height uniform with the other structure. The corridors of the two buildings are continuous above the second story, being carried across the alley by a bridge. The two buildings present façades of one hundred and ninety-nine feet on Euclid Avenue, four hundred and twenty-two feet, exclusive of the bridge, on East Fourteenth



LOBBY IN HANNA THEATRE—HANNA BUILDING ANNEX, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



PROSCENIUM IN HANNA THEATRE — HANNA BUILDING ANNEX, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



WALL AND BALCONY IN HANNA THEATRE—HANNA BUILDING ANNEX, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



BOX IN HANNA THEATRE—HANNA BUILDING ANNEX, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT.



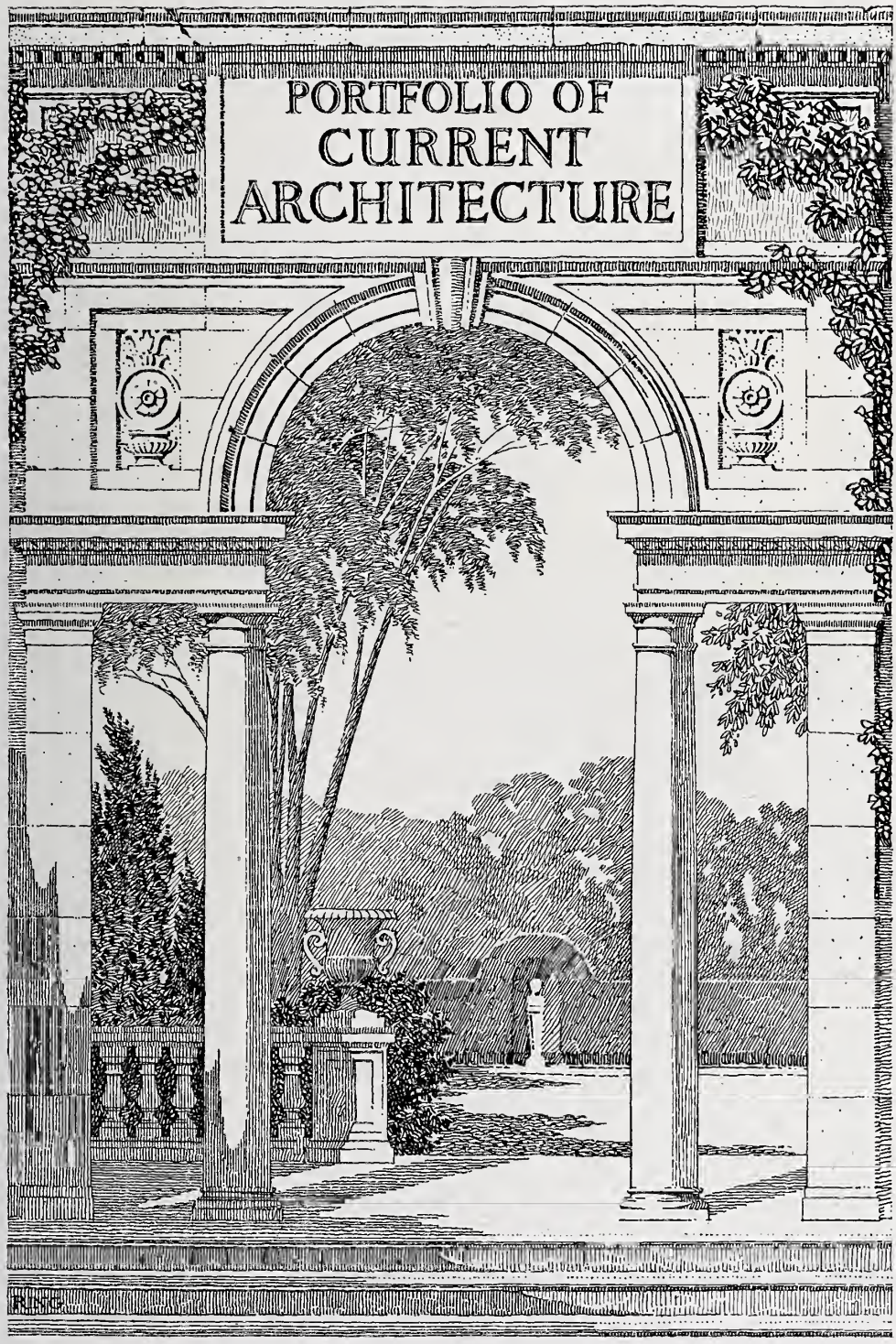
HANNA BUILDING ANNEX, CLEVELAND, OHIO
Charles A. Platt, Architect.

Street and one hundred and twenty-four feet on Prospect Avenue.

The Annex is a massive screen following the street line, the space in the rear being occupied by the Hanna Theater. As this is low compared with the main structures, the space above it provides an exceptionally spacious well for light and ventilation. The well between the two wings of the main building is also of unusual size, so the inside offices have little of the cramped and stuffy outlook so common in large office buildings.

The theater itself is unique in design; Pompeian in its motive, architectural rather than decorative in treatment, and a gratifying relief from the crude and vulgar excess of ornamentation so common in the ordinary run of playhouses. The walls are given a very simple architectural treatment which is carried out to simulate the effect of Travertine. The soft, warm grey of the walls forms an admirable foil to the rich polychrome effect of the coffered ceiling, the ornate boxes and the proscenium arch, the coffering of which echoes that on the ceiling. The foyer and lobby are diminutive compared with the vast tunnels that lead to some of the other theaters in Cleveland's new Playhouse Square, but this very contrast gives to the Hanna Theatre an intimate charm that is refreshingly sane and appropriate.

As one steps inside the Euclid Avenue entrance of the Hanna Building, a bronze bust in a niche at one's left recalls the features of the man whose name the structure bears and in whose honor it was erected, for the Hanna Buildings and Theater stand as a memorial to the late Senator M. A. Hanna, whose interest in the drama, whose business ability, and whose political leadership are fittingly commemorated by this vital and admirably composed architectural monument.


PORTFOLIO OF
CURRENT
ARCHITECTURE



WORLD WAR MEMORIAL AT LANSDOWNE, PA.
CLARENCE WILSON BRAZER, ARCHITECT.



TRAVELERS' INSURANCE COMPANY BUILDING, HARTFORD, CONN. DONN BARBER, ARCHITECT.



ENTRANCE DETAIL — NATIONAL CITY COMPANY, NEW YORK CITY. STARRETT & VAN VLECK, ARCHITECTS.



FEDERAL RESERVE BANK, RICHMOND, VA.
SILL, BUCKLER & FENHAGEN, ARCHITECTS.



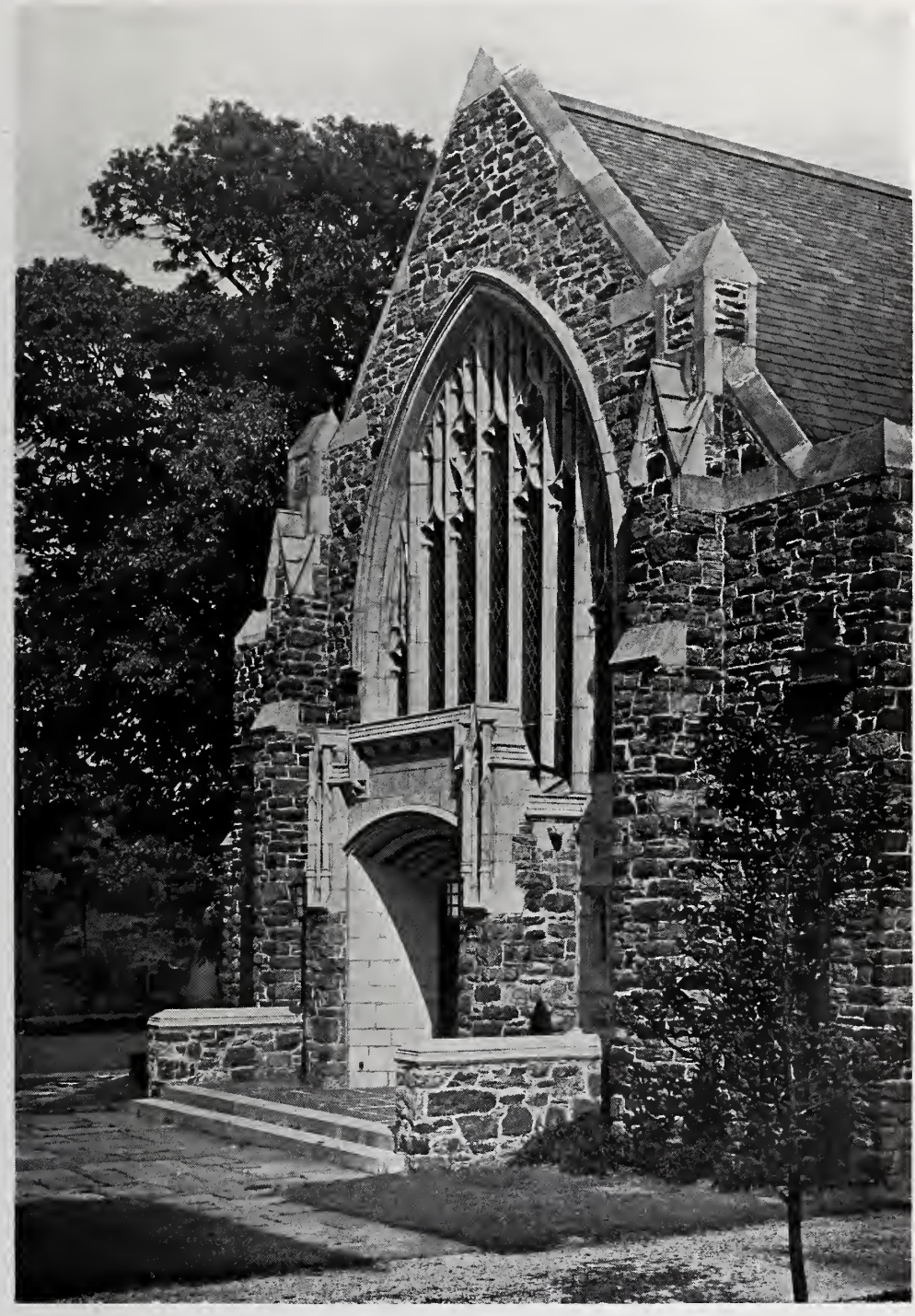
INTERIOR—FEDERAL RESERVE BANK, RICHMOND, VA. SILL, BUCKLER & FENHAGEN, ARCHITECTS.



SCARBOROUGH SCHOOL, SCARBOROUGH, NEW YORK. WELLES BOSWORTH, ARCHITECT.



SCARBOROUGH SCHOOL, SCARBOROUGH, NEW YORK. WELLES BOSWORTH, ARCHITECT.



HUGUENOT MEMORIAL CHURCH, PELHAM, NEW YORK. FRANCIS A. NELSON, ARCHITECT.



HUGUENOT MEMORIAL CHURCH, PELHAM.
NEW YORK. FRANCIS A. NELSON, ARCHITECT.



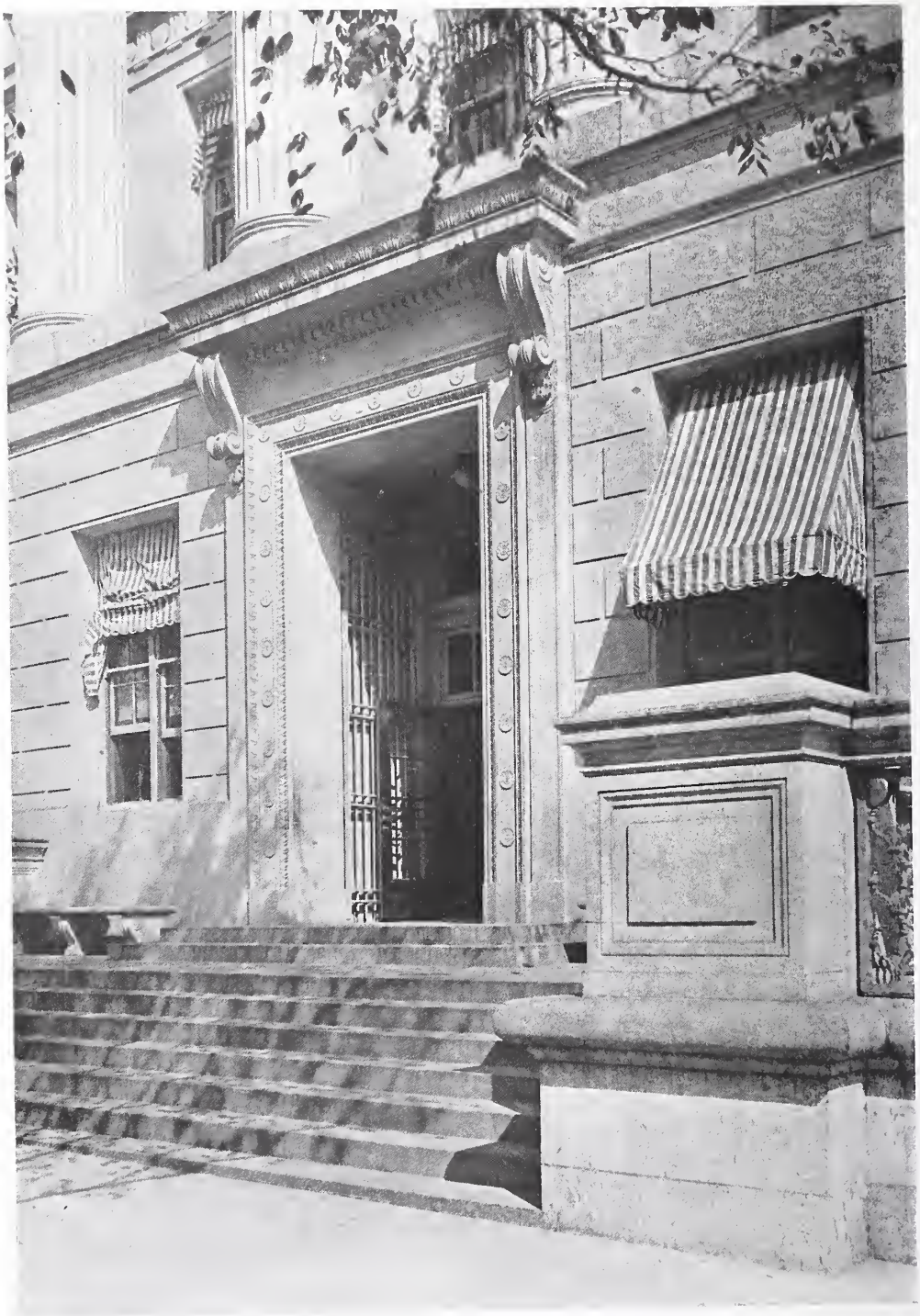
HOUSE NEAR NEW ROCHELLE, N. Y.
CHESTER PATTERSON, ARCHITECT.



HOUSE AT PELHAM, NEW YORK.
CHESTER PATTERSON, ARCHITECT.



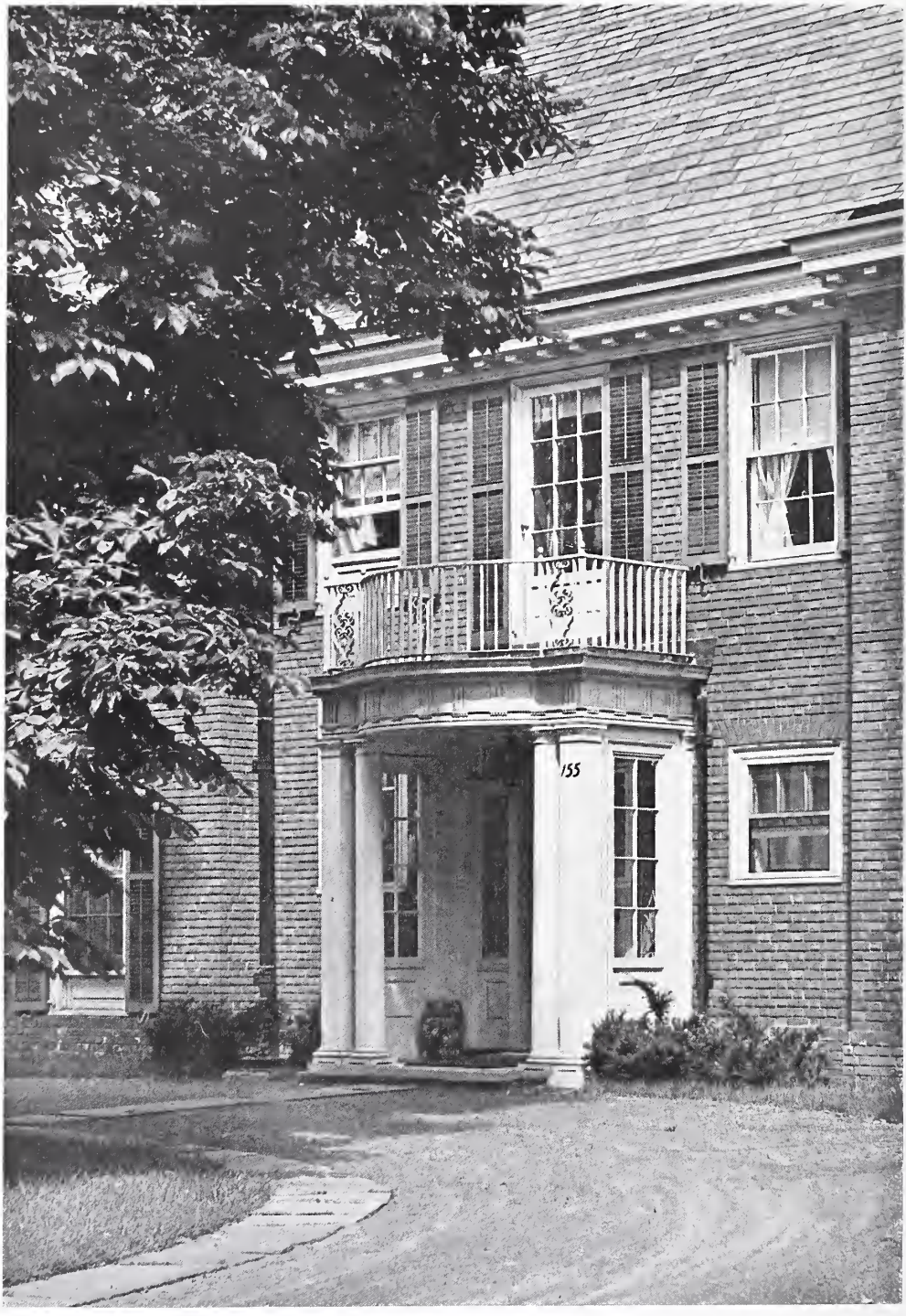
UNITED STATES TREASURY ANNEX,
WASHINGTON, D. C. CASS GILBERT, ARCHITECT.



UNITED STATES TREASURY ANNEX,
WASHINGTON, D. C. CASS GILBERT, ARCHITECT.



DETAIL OF MAIN FAÇADE—RESIDENCE OF A. L. SEARLE, ESQ., MINNEAPOLIS, MINN. TROWBRIDGE & ACKERMAN, ARCHITECTS.



DETAIL OF DOORWAY, RESIDENCE OF PROF. WILLIAMS,
NEW HAVEN, CONN. MURPHY & DANA, ARCHITECTS.

Poggio Torselli, San Casciano, Val Di Pesa

By Harold Donaldson Eberlein

POGGIO TORSELLI has been well described in the words of a local Tuscan antiquarian as the "queen of all the villas" round about the village of Casavecchia, near San Casciano. Built in the seventeenth century, by a branch of the Corsini family, it exemplifies the less flamboyant phase of "the Baroque taste" and its plan is characteristic of the later form of villa. That is to say, there is a main rectangular solid block without a *cortile*, and the central mass is flanked by wings.

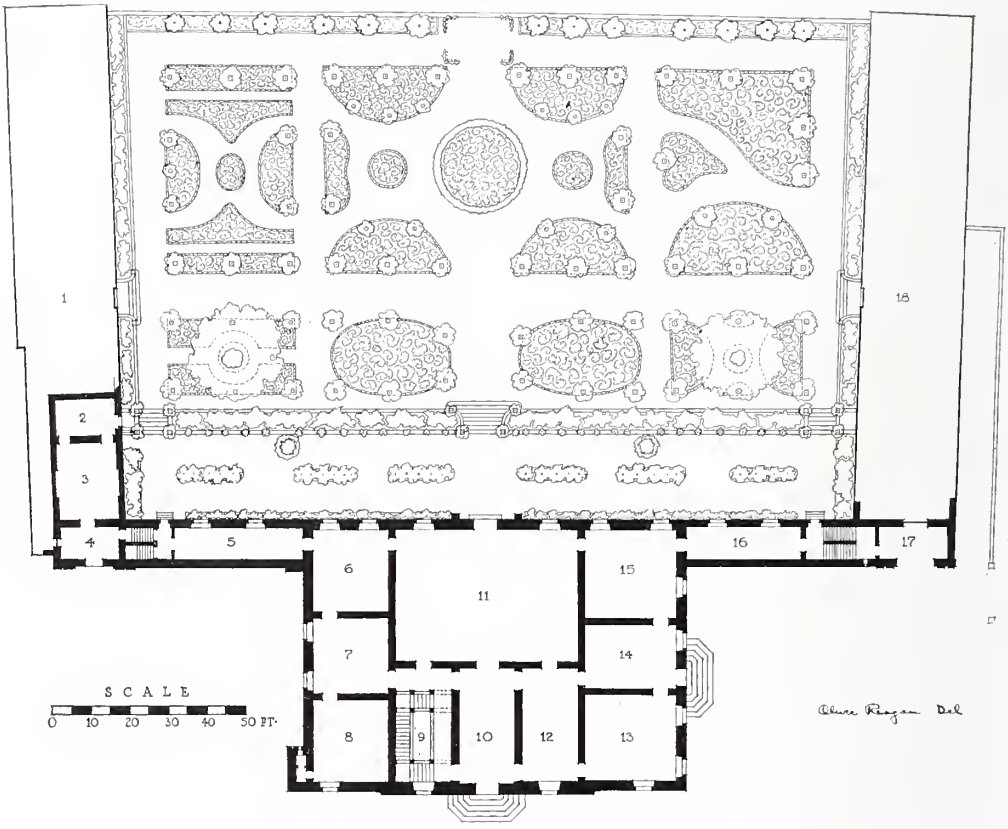
The approach through a long, straight *viale* of tall cypresses is most imposing and makes a fitting introduction to the bold, symmetrical aspect of the entrance front. The grey-brown of the stuccoed walls is relieved by the deeper brown of the pilasters, cornice, and geometrical panelling on the fronts of the east and west wings. The door and window trims are of *pietra serena* and the shutters are painted a light green in the usual manner.

Inside the house one of the features of most notable interest is the staircase which is wrought entirely in the grey *pietra serena* of the region, and is indicative of the period when the domestic staircase was becoming an object of considerable architectural elaboration. Another striking interior feature is the lofty *sala*—within the three central bays of the south or garden front—whose height extends through both the ground and mezzanine storeys. Here the ceiling and walls are embellished with stucco ornament in bold relief in the manner of the period. Altogether the design of the whole establishment faithfully reflects the ample mode of life pursued in the days when it was built.

In the north front of the east wing is the family chapel, while, corresponding to it, the north front of the west wing gives access to the stables and coach house. Back of the chapel and stables, the east and west wings accommodate the lemon house, accessory gardening provisions, and housing for the domestic servants and the farm laborers.

The garden, which is symmetrically planned, is enclosed and sheltered on three sides—north, east and west—by the main body of the house and by the long projecting wings. It is open to the south, and on this fourth side is bounded by only a low wall on the other side of which the ground falls sharply away, through olive orchards and vineyards, to the valley below.

A careful examination of the entire composition—the approach, the house with its subsidiary buildings, and the gardens—leaves one deeply impressed with a satisfying sense of completeness.



KEY TO PLAN OF POGGIO TORSELLI

1. Cantina or Estate Storehouse.
2. Sacristy
3. Chapel
4. Ante-Chapel
5. Long Gallery
6. Small Drawing Room
7. Dining Room
8. Blue Bedroom
9. Stairhall and Staircase
10. Entrance Hall
11. Great Sala
12. Ante Room
13. Bedroom
14. Bedroom
15. Bedroom
16. Long Gallery
17. Entrance to Coachhouse
18. Stables and Servants' Quarters



NORTH FRONT—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



CHAPEL ENTRANCE, AT EAST SIDE OF NORTH FRONT—
POGGIO TORSELLI, SAN CASCIANO, VAL DI PESA, ITALY.



STABLE ENTRANCE, AT WEST SIDE OF NORTH FRONT—
POGGIO TORSELLI, SAN CASCIANO, VAL DI PESA, ITALY.



STAIRCASE — POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



THE SALA—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



THE SALA—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



GARDEN DOOR—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



SOUTH FRONT—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



THE GARDEN—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



SOUTH TERRACE—POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



EAST WING — POGGIO TORSELLI,
SAN CASCIANO, VAL DI PESA, ITALY.



FIG. 76. VIEW INTO COURTYARD—HOTEL SOMERSET.
CHICAGO, ILL. S. N. CROWEN, ARCHITECT.

TENDENCIES IN APARTMENT HOUSE DESIGN

PART VII—COURTYARD PLANS

By FRANK CHOUTEAU BROWN

LAST month the problem of the courtyard plan, as adapted to use upon a shallow lot, was discussed and illustrated. That article also included some examples selected in order to best and most clearly express the dominant characteristics of the courtyard plan. In this issue we will further discuss and illustrate examples of general importance in studying the apartment house group of larger size, at the same time continuing to trace the development of the courtyard plan as it has been utilized to fit upon a larger and deeper lot.

With the greater depth—and often also greater width—provided in these lots now to be considered, it will at once be seen that the scheme upon which the plans are usually developed becomes one of two principal ideas; one is an arrangement of the units that "opens out" the court to a wider width as it nears the street ("b" Fig. 77), thus giving more view to the inner apartments; or the reverse method ("c" Fig. 77) of narrowing the courtyard opening by increasing the thickness or width of the wings as they near the street front, the latter a treatment that somewhat further confines the outlook from the court while providing more rooms that possess a frontage directly upon the street itself.

The individual plans comprising each of these groups should be studied in detail in order to better appreciate the individual and comparative merits of the two methods described, but in the orderly progression of illustrating the subject matter towards a clear realization of the courtyard problem, it seems necessary to stop to discuss, and illustrate, some of the structures that best display the characteristics of these two types—both being treatments that may be made applicable to almost all kinds of grouped courtyard plan-arrangements.

It may perhaps seem more logical to give precedence in discussion to the type of plan that "opens out" the courtyard as it nears the street, over the type that appears to be more or less gradually "closing in" the open end of the court. We will then take up "reversed" examples of the same types, showing what happens when the courtyard is split into two sections and the wings are placed together, back to back, in the center of the lot.

This latter method of arrangement, although at first sight it may appear to have no resemblance whatever to the courtyard plan, is yet most easily studied in parallel and in contrast with it. Both possess inherent advantages; sometimes one will go upon a lot when the other will not, and both, by somewhat different means, achieve similar benefits to the tenants of the apartments thus secured. It should again be mentioned that we are now concerned with the grouped disposition of plans of individual apartments, the arrangement of which, in themselves, has already been specifically studied. We are also considering each floor grouping by itself. It is obvious that, the individual floor plan once determined, it can be duplicated in as many stories as the owner desires.

To illustrate most concretely the principal variations in contour of the "courtyard" type of grouped apartment structure, some of the most distinctive plans have beeen repeated in condensed outline

form in Fig. 77. They are there shown to separate themselves into two types, the "open" and "closed" groups—the latter, in this connection, first meaning the *partially* closed tendency, instead of the completely enclosed courtyard plan that will later appear in several examples.

The opportunity to "open out" the compacted type of grouped apartment-

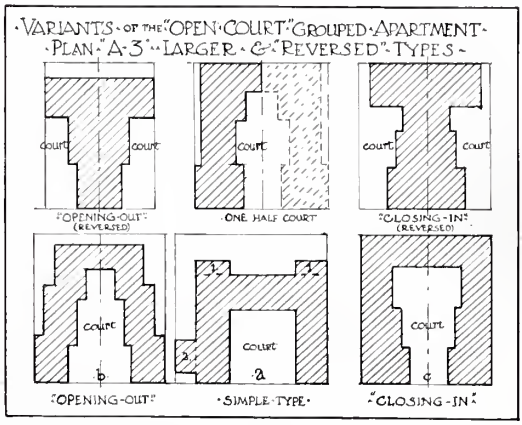


FIG. 77. "OPEN COURT" APARTMENT TYPE PLANS.

plan first presented by the large area lot in semi-urban location is, however, much more than a mere arrangement of apartment units around a courtyard of varying proportions and size. It offers the most important of all elements to the comfortable occupancy of the apartment in the warmer weather of spring and fall, during which it is likely to be tenanted by its lessees. And this period is not to be altogether ignored, as is too often the case with landlords and architects. It is, of course, largely true that the apartment is destined to be inhabited principally in the winter months, and that a very considerable part of the large vogue of the apartment structure, particularly of the better type, during these recent years has come about because it so conveniently provides the occupants with an easily obtained and largely care-free city residence for the busier winter months, while enabling the family to stay in some country, mountain or seashore spring, summer or fall resort for the major part of the year.

Nevertheless, despite the constantly growing tendency to extend to a later and later date the period of the return to the city in the fall, it will probably always be the case that the very same reasons that help to bring about this condition will also continue to keep these same families in the city to a later date in the spring—because of the continuance of social engagements or the more or less uncertain weather of that period—year after year. During this period they will have to endure occasional longer or shorter spells of excessively hot weather, justifying the occasional grumbles of the male members that the apartment is hot in summer—and it is the opportunity thus provided to "open out" the apartment of the courtyard type, in more ways than one, that should be emphasized in connection with the publication of the examples here shown.

There are two principal methods of arrangement for the individual apartments in any "open court" type of plan, both of which were mentioned in the preliminary portions of the preceding article. The essential difference in general plan consists in whether or no there is a continuous circulating or connecting corridor around the building on each floor, connecting all apartments with a central elevator location. Where this is so, this corridor must either be in the centre of the structure, with apartments opening from it on either side, or it must run along the rear outside wall, with larger

sized apartments opening only on the one side, toward the principal outer face of the building. The latter is a rather rare arrangement, so far as can be ascertained —although one very successful example exists in a structure built completely around a central courtyard. Even in the latter case, however, it is not possible to obtain any cross draft for either living or sleeping rooms *except* across this corridor, a difficult matter when the latter is used for the public, although convenient and allowable if its use is restricted to the occupants of the apartment.

When the apartments are not strung along a connecting corridor, linking them all into a structure of one continuous design, but are arranged so that they can be carried entirely through or across the structure from one face to another, it becomes necessary to provide separate or connecting staircases or elevators for each pair of apartments upon the floor, although it is sometimes possible to serve more than one pair of apartments (particularly at the corner angles of the plan) without altogether sacrificing the important element of cross draft. In this event the composition of the whole structure will consist rather in the connection of individual or double apartment units, in series, around the open courtyard, upon any basis that will seem best adapted to the proportions of the area to be improved and the requirements of the owners or the class of tenants to be served. The result is generally a series of double-apartment-width units, that, as separate problems, must more or less conform to the general conditions that were found to control plans of this type in some of the earlier papers of this series. The details of the arrangement of these individual units may, however, be considerably modified or affected by the very methods selected for grouping them around a court, and particularly by the irregularity of courtyard outline sometimes allowable or devisable by the ingenuity of the architect.

It also naturally follows that these individual building units are generally of shallow depth (predicated by the usual proportions of the land-plots available) and therefore the apartments themselves are of small size, unless, as is rarely the case, they are made larger by expanding over a comparatively long and extended length of the structure frontage upon area of courtyard or street. Generally, then, the apartments in structures of this type do not consist of over six rooms, frequently of less, and in many cases are made up, either in whole or in part, of non-housekeeping units of two or three rooms, sometimes of the kitchenette type. All these details will be found expressed in a variety of ways among the examples to be reproduced, where they may be studied at greater length by those particularly interested. Attention has here been called merely to the most important of the tendencies evidenced in their development.

The importance of this matter of cross draft, available from the more obvious utilization of the opportunities presented by this type of plan, however, cannot be too much emphasized. It often spells the difference between partial failure and complete success. In this connection attention is again called to the matter of exposure or orientation in apartment house planning, already incidentally mentioned in these articles. It is nearly related to the subject just emphasized, and has a bearing not only on the matter of cross draft in accordance with the prevailing winds in the locality where the building is to be located, but also in regard to its exposure to the sun as well.

Considering the usual type of plans, we often find a variation in the repetition of the arrangement, caused by an evident intention to secure for the occupants of the apartment in the less favored exposure, more benefit from sunlight than they would secure from the unthinking "repeat" of the customary plan reversed. True, any adjustment to this factor requires more complication of the plan-problem than most designers dream of: but it is, nevertheless, a factor of vital importance such that no architect who conscientiously realizes his obligations to

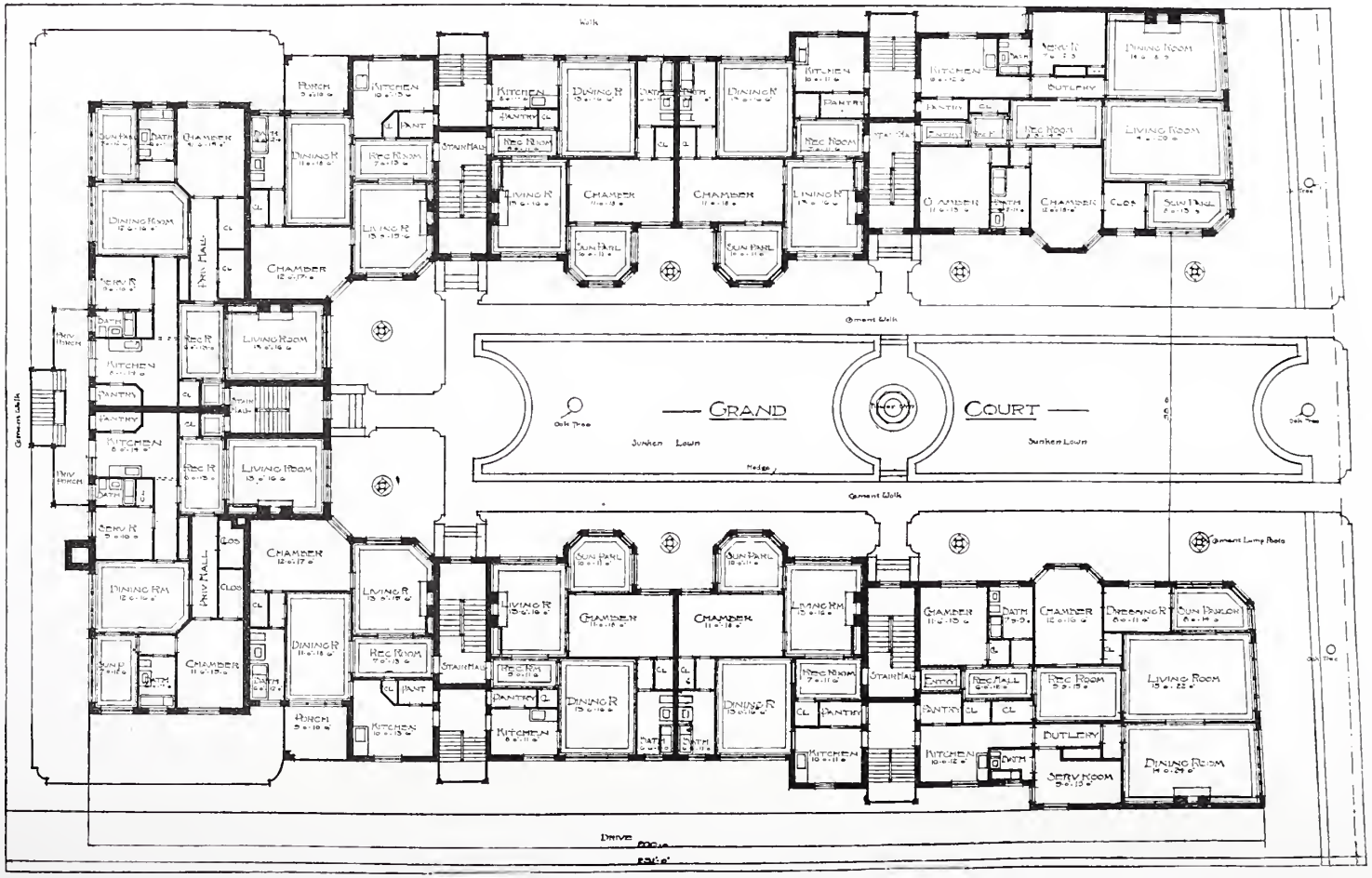
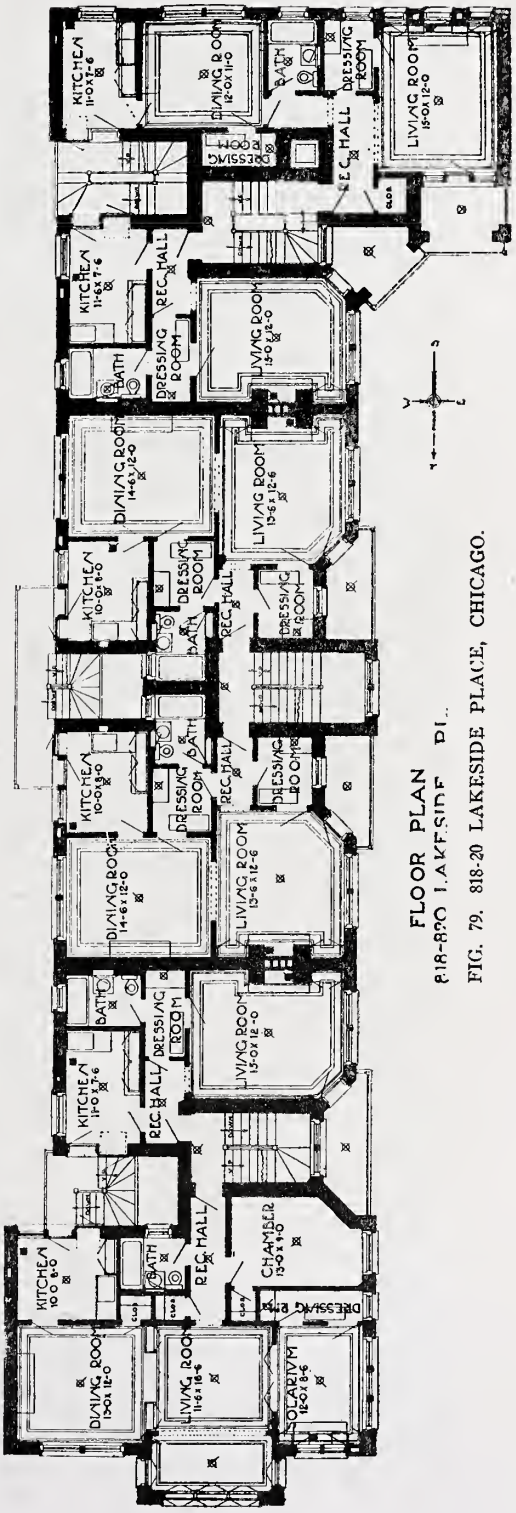


FIG. 78. TYPICAL FLOOR PLAN—"OAK RIDGE APARTMENTS," 1615-1625 RIDGE AVENUE, EVANSTON, ILL. ANDREW SANDEGREN, ARCHITECT.

his client can afford to ignore. It is of the very fundamentals of house design, as generally practiced—and now that the apartment is commencing to occupy an important position in the lives of so many of our citizens, this vital matter can no longer be ignored—the more as it is of even greater importance to the pleasure and health of tenants during the winter, a portion of the year when our apartments are most crowded and occupied.

Many of these plans will be found at least to recognize the importance of sunlight, when it can be easily secured, as is attested by the number of recent plans containing an element labelled "sun room" or "porch," a factor rarely found in the apartment house plan of a decade or so ago. Nevertheless, the tardy recognition of the importance of this element still leaves much to be desired. Far too often it will still be found, on a careful analysis of the plan, that while the apartments down one side of a courtyard, for instance, will by this means actually obtain more sun, yet upon the opposite side, where exactly the same arrangement of the plan exists, it is impossible —on account of the location of the plan in relation to the points of the compass—for the occupants there to secure any sunlight. Here is at once suggested an important element in the variation or breaking of the wall line of the building. By advancing or receding the apartment units from an established frontage it is often possible, using this means alone, to obtain the benefit of much additional sunlight for the occupants, without otherwise varying the arrangement of the individual units from the customary "repeat" of the plot arrangement adopted on each side of the courtyard center line.

We agreed to consider first the possibilities of the plan of deep proportions, but with the arrangement of the different units dominated by the idea of "opening out" the courtyard as it nears the street. ("a" Fig. 77.) Perhaps the best illustration of this idea is an example in Chicago (Fig. 78), where a series of five units, each consisting of two apartments



FLOOR PLAN
818-820 LAKESIDE PL...

FIG. 79. 818-20 LAKESIDE PLACE, CHICAGO.

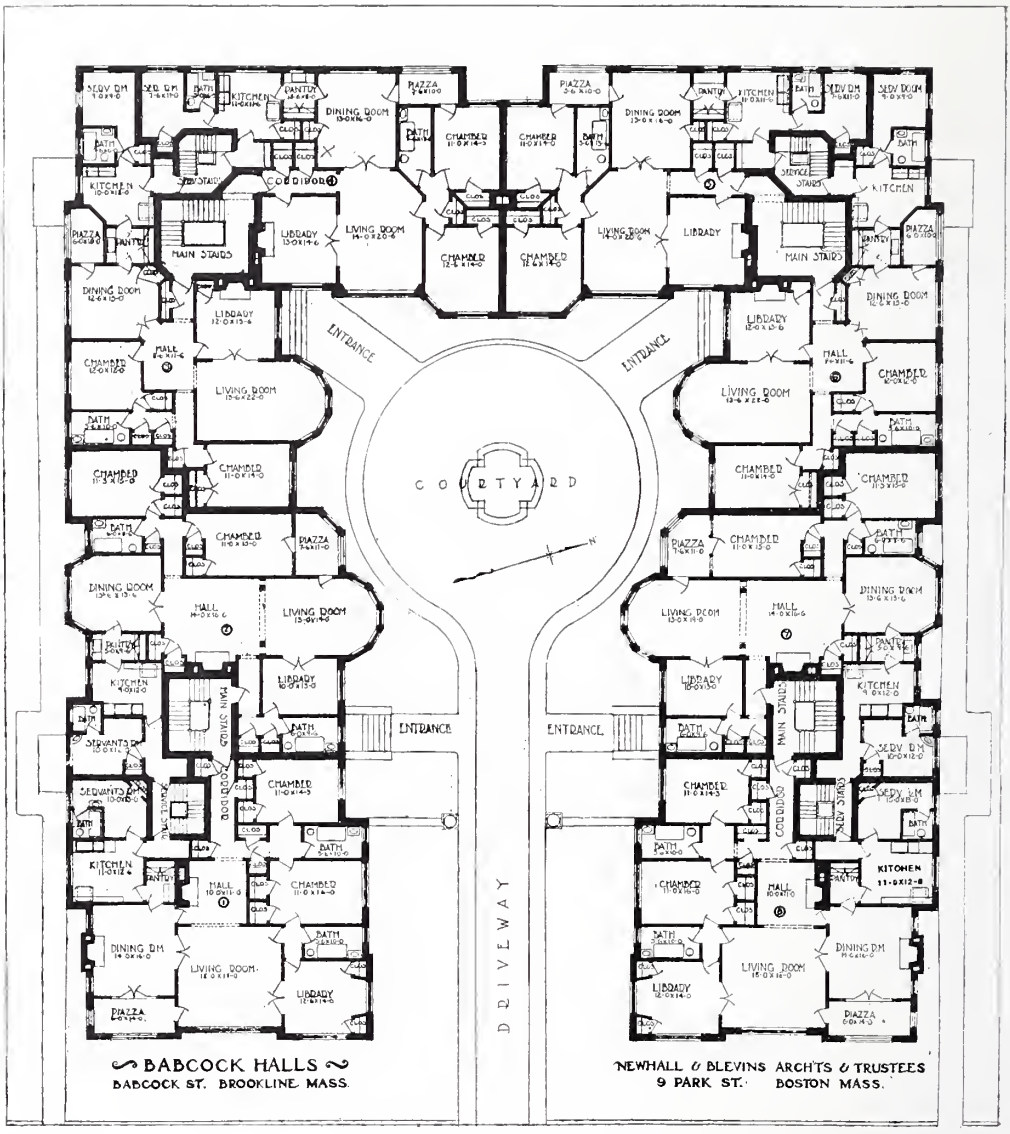


FIG 80. PLAN OF BABCOCK HALLS, BROOKLINE, MASS. NEWHALL & BLEVINS, ARCHITECTS.



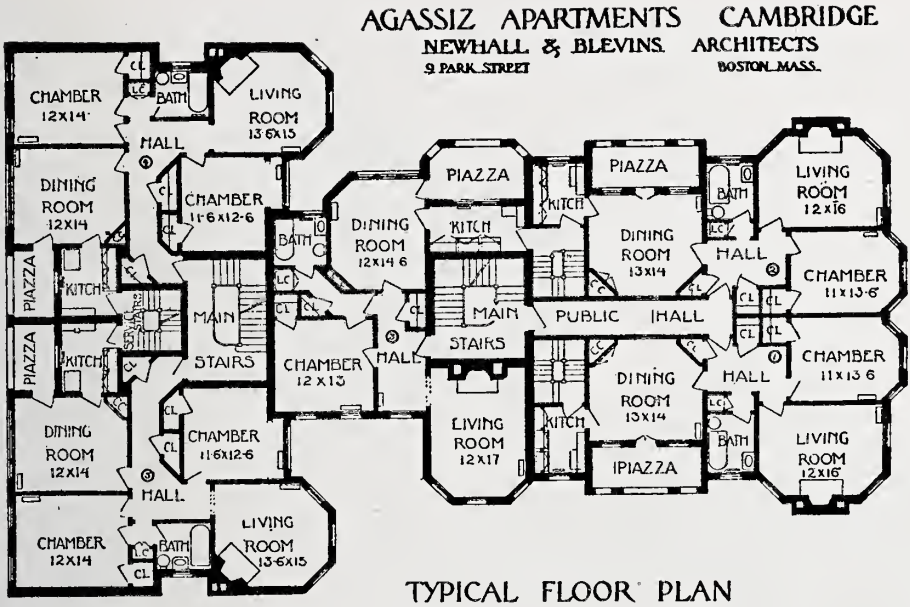
FIG. 81. BABCOCK HALLS, BROOKLINE, MASS. NEWHALL & BLEVINS, ARCHITECTS.

to the floor, are shown disposed with two units on each side of the court and one at the inner end. The size of that portion of the lot occupied by the building (omitting the set back from the street) is just two hundred feet deep by one hundred and forty feet wide, and the courtyard is fifty-eight feet wide at the street end and about one hundred and fifty feet deep. The plan itself also possesses points of interest. First, it should be noted that, even in the smallest apartments—those of four rooms outside the bath and sunroom—the rooms are large, even the kitchen not being crowded in size or arrangement. The treatment of the staircases, locating the rear or service stairs directly back of the main staircase, is an economical arrangement where the small sized inner apartments are concerned. It is somewhat wasteful of the hall space within the apartments where the number of rooms is increased, as in the corner units of the group. The sunroom is an integral part of each unit, being available from either the living or sleeping room, and is also projected well beyond the main wall face (in the case of the inner unit, particularly) so as to secure as much outside exposure as possible. It is to be *presumed* from the plan arrangement that the structure and courtyard open to the south.

Other indications of this plan are also of interest. Of the ten apartments shown upon the floor, six are of four rooms and bath—a kitchen, dining room, living room and a single chamber, obviously only available for the smallest possible family unit, or perhaps the bachelor, man or maid. Two more are of five rooms, but the added room is a maid's bedroom —*possibly* available as a smaller family room if no maid is employed. The other two apartments, facing directly upon the street, are the only ones supplied with a second bedroom for the use of the family. Evidently, it would seem that these apartments are intended to appeal to only a limited (in more senses than one!) clientele.

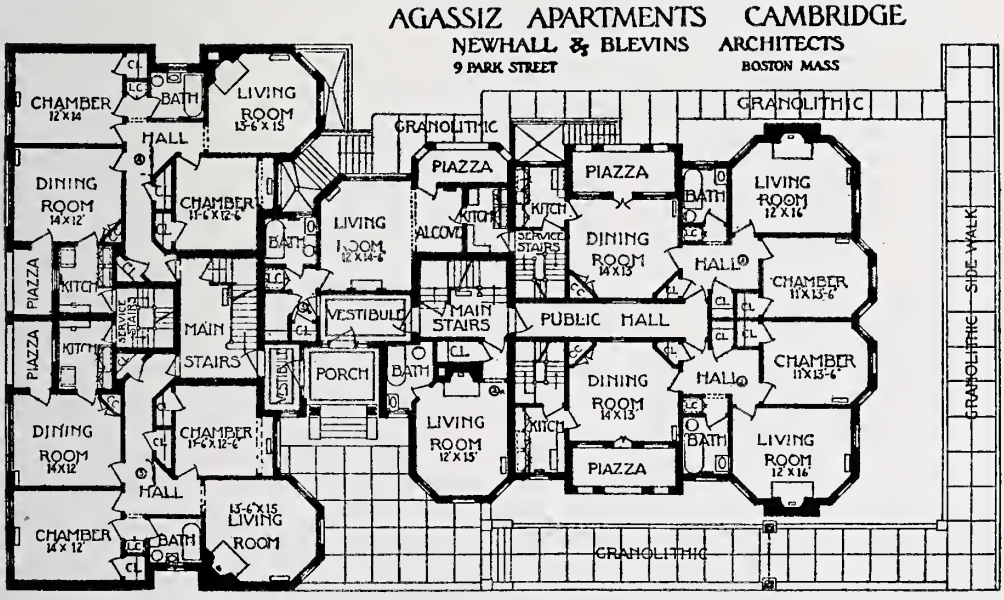
Another plan (Fig. 80), illustrates the opposite tendency ("b" Fig. 77). Here the size of that portion of the lot covered by the building is one hundred and forty-five feet front, by one hundred and seventy-five deep, and the courtyard opening at the street end is about forty-five feet and its centre depth is one hundred and thirty-five feet. The group is made up of four units of two apartments to the floor each—but the apartments are now much larger, consisting of eight rooms and baths. The staircases are all planned so that they occur in the inside of the plan and so do not take up available outside wall space that might otherwise be used for room exposure and windows. These plans also contain sunrooms or "piazzas" in addition to the number of rooms mentioned, and the rooms themselves are always spacious and comfortable in size. The whole structure makes an admirable arrangement for the development of a suburban plot of land of similar size in an attractive and remunerative manner—provided only that the land is itself located in a neighborhood where apartments of the amplitude and size of these might be expected to be in demand at the rentals necessary to carry the investment.

Let us next consider for a moment the plan shown in Fig. 79 (purposely placed next to Fig. 78 so that it may be the more easily compared with it) in regard only to its general outline shape and disposition upon the lot. The plan is of interest as indicating how far it is possible to develop a very deep narrow lot on the basis of the use of a "semi-court" idea. That is, the plan is laid out quite as though it were the one-half of a courtyard development of the exact type shown in Fig. 78. The structure itself is very nearly fifty feet wide by one hundred and fifty feet deep. The "half court" is only a little more than fifteen feet wide—too narrow, of course, to fully serve its purpose of supplying adequate light, air and outlook to the tenants except upon the supposition that the lot adjoining remains permanently unimproved. This, by the way, is hardly a safe assumption in any growing Ameri-



TYPICAL FLOOR PLAN

FIG. 82.



FIRST FLOOR PLAN

FIG. 83.



FIG. 84. GENERAL VIEW—HOTEL SOMERSET, CHICAGO, ILLINOIS.
S. N. Crowen, Architect.

can city suburb. The consideration of the arrangement of these apartments in detail will be taken up a few paragraphs later. It is sufficient for the moment to note that they are arranged in units of two apartments wide, and that three units have been secured in the depth of lot given. The front and back stairs are again arranged substantially as in Fig. 78, or as near as may be, one directly back of the other.

In Figs. 82 and 83 we have the "closing in" courtyard type, "reversed" (see Fig. 77)—that is, the courtyard has been divided into two half-courtyards (further carrying out the idea, perhaps, of Fig. 79) and the two wings are located in the centre and placed back to back.

What has been gained by this interchange of parts? Principally, perhaps, economy of construction, added to the fact that a plan of this sort can generally be undertaken upon a narrower lot. The entire width of this structure, across its widest part, at the back, is about seventy feet, obviously too narrow a lot for the purpose. If the plan had been arranged as in Fig. 80, for instance, this defect would have been at once too apparent. The courtyard would have been only about twenty-two feet wide between the front of the wings, and would have shown up as crowded and narrow, with the apartments on each side of the court too directly and unavoidably under the observation of their neighbors across the way—always a danger in buildings of the courtyard grouping.

As it is, however, with the rooms looking out over adjoining lots, this factor is, for the present at least, entirely avoided. The occupants obtain a wider expanse of outlook, so why worry about the possibilities of the future? It is also more

economical to construct, as it is thus possible to make staircases, both front and back, do double duty, thereby saving both actual area and duplication of parts. There is also another advantage, evident in the first floor plan (Fig. 83). The service entrance is separated from the main entrance, for they are placed on opposite sides of the central part of the building. The staircases are again entirely inside the building, and of the five apartments found above the first floor, the three at the rear secure ideal conditions of cross draft, only the two on the street losing something of this advantage, which is perhaps more than compensated by their occupancy of an external angle, and their location upon the street. In these apartments, three are of four rooms and bath, the two at the rear having five rooms each, and all have "piazzas."

It should, of course, by now be obvious that the problem of the apartment house is a problem of the single floor plan. Once the different elements comprising the arrangement of the living accommodations necessary to the comfort of the number of families that has been determined on as the total to be taken care of on the typical floor, have been successfully arranged, it is merely a matter of the repetition of this typical floor arrangement upon as many stories as are necessary to solve the economic problem of obtaining a financial return for the owner commensurate with the value of the land being improved. Above the height of four stories, an elevator be-

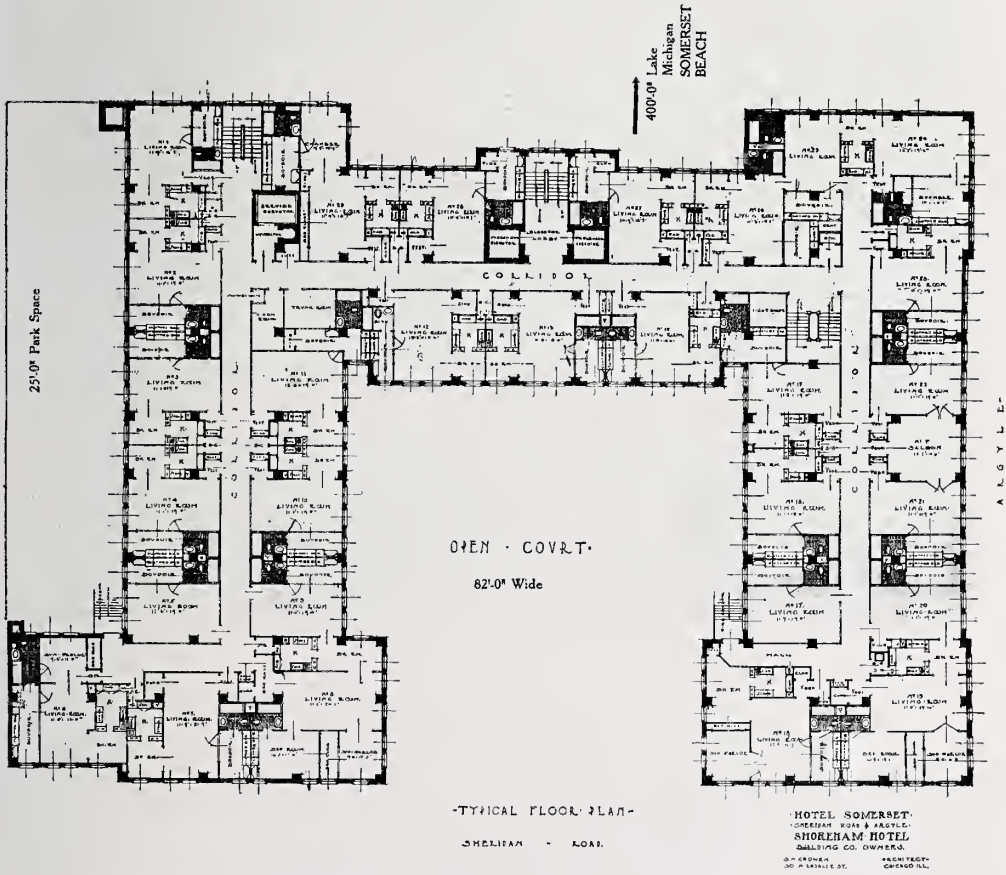


FIG. 85. TYPICAL FLOOR PLAN—HOTEL SOMERSET, CHICAGO, ILLINOIS.
S. N. Crowen, Architect.



FIG. 86. DETAIL OF COURTYARD ENTRANCE—HOTEL SOMERSET, CHICAGO, ILL. S. N. CROWEN, ARCHITECT.

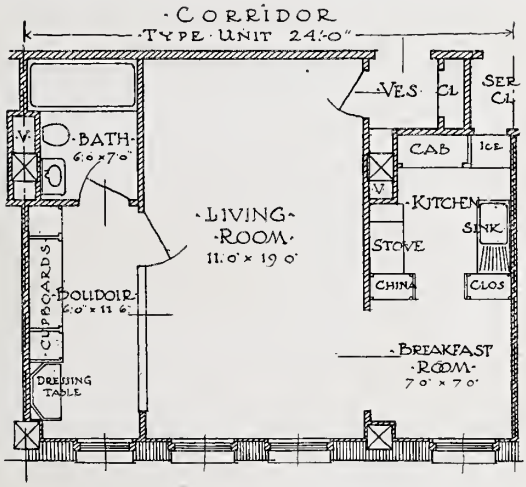


FIG. 87. "TYPE UNIT" ON WHICH PLAN OF HOTEL SOMERSET, CHICAGO, IS BUILT UP.

comes necessary, thus immediately increasing the cost of construction and maintenance, so—taken in account with the very generally required fireproofing of buildings over three or four stories high—it is usually the case that, if the structure is increased over four stories, it immediately jumps to at least eight stories or thereabouts in height.

So far at least as the architect is concerned, the plan can be superimposed, layer upon layer, for as many stories in height as the owner may desire. Thus far, it is true that the major part of the buildings illustrated have not been of more than three—or, at the most, four—stories in height. The plans are, nevertheless, with the possible addition of an elevator or elevators, adaptable to a higher building, and we have in Fig. 85 a plan that is actually used on a structure of such additional height.

This plan is quite different in detail than any we have yet shown, being, indeed, almost a new type of "apartment-hotel." It might first be mentioned, however, that it also illustrates the plan with a central connecting corridor that was earlier described, with rooms opening upon either side. It might also be said that this type is almost demanded upon a large site when developed with a

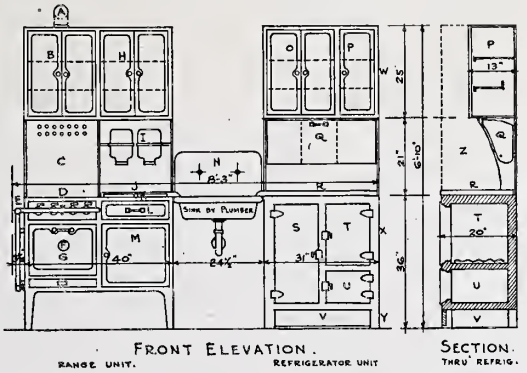


FIG. 88. LAYOUT OF CONDENSED KITCHEN APPARATUS.

building of great height. In this case that portion of the lot covered by the building is about two hundred feet front and one hundred and fifty feet deep. Setting apart the twenty-five foot wide secondary court at the side, and the projections (1, 1 and 2 in "a," Fig. 77), the plan is a perfect illustration of the simple "U" courtyard type. The courtyard is ample in size, being about eighty-two feet square, with a slight tendency toward "closing in" the opening of the court to the street.

The "type unit" on which this entire plan is based is, however, quite different from anything we have yet studied. One of these "units" is illustrated, separately, in a larger size in Fig. 87. As will be seen, the endeavor has been to combine in one large room, eleven by nineteen feet, and its dependencies, all the usual living requirements necessary for the individual, or even a family of two persons. A portion of the unit seven feet wide at the right includes all the necessary conveniences for cooking and eating, with a very compact kitchen nearest the corridor, and connected with it through a "service closet" that serves it and the kitchen next to it at the same time. Another portion of the unit, six feet wide, at the left, serves all the sleeping requirements of the occupant, with a bath and dressing accommodations included. The whole floor plan is comprised of an ingenious and economic disposition of these units, with considerable variety of detail arrangement, the corner apartments having added separate bedrooms and sun parlors, so that a total of twenty-nine individual units is obtained on the typical floor plan shown. Three principal staircases, two fire escapes, two passenger elevators and one service elevator, an incinerator, dumbwaiter, clothes chute and linen room are also provided as service accessories.

The especial interest of this plan is found in the compact arrangement of cooking conveniences. In a space of about fifty-six square feet are provided all the necessary elements, including two fairly spacious and commodious china closets, opening in front from the dining alcove, and in back from the kitchen. This is one of the several compact arrangements of kitchen furniture that have recently been developed and put upon the market to meet the demand for a small, compact kitchen unit. One such grouping of kitchen furniture is shown in Fig. 88. All requisite parts are provided in a space eight feet three inches long by twenty inches deep. By planning a space of this length and about five feet six inches wide, so arranged that these fixtures may all be placed in series along one side, it is possible to reduce the ordinary sized kitchen to an area of about forty-five feet, and many of the small housekeeping apartments of today are now being planned to make use of similar equipment.

Another suggestive arrangement of units has been carried out to meet conditions in New York City. The floor area has been divided into four apartments of three rooms and bath upon each story, and a building of some fifteen stories in height has been undertaken. While the kitchen is small, about seven by eleven or twelve feet in each case, the principal attempt at economy of space has been by the adoption of what is often called the "California idea," the double use of the same space for day and night purposes. As worked out in these plans this simply means that two rooms do duty as four. We have a "dining room-bedroom" and a "living room-bedroom," the latter eked out in each case by a small dressing closet adjoining, while in place of the old "folding bed" of unpleasant memory the plan provides a modern variant, combining "bed, dressing table, secretary," all in one piece of furniture.

In another invention, of similar intention, the bed folds up into an upright position, and is so installed upon a pivot that it can be swung back and around into a closet, where it remains snugly ensconsed during the day. It is claimed that the kind used in the New York apartments possesses sanitary advantages over the other, but in any case it is obvious that a closet put to this use should have a window available for light and air in the space so used.

EL DONCEL de SIGÜENZA
AN ANONYMOUS STATUE

By MILDRED STAPLEY

Photographs by Ricardo Orueta and Arthur Byne

THIS very beautiful sepulchral monument was first made known through Marcel Dieulafoy's *Statuaire Polychrome en Espagne* (Paris, 1908).

Dieulafoy was an enthusiastic admirer of Spanish art and architecture at a time when the world in general was still ignoring it. But Spain was not his field; the great Persian student merely looked into it *en passant*, and in his day the Spanish archaeologists themselves had not yet begun those researches which now make the critical work of the foreigner somewhat easier. It is not astonishing, therefore, that Dieulafoy, in default of data and pressed for time, should have made some erroneous ascriptions. He attributes the anonymous statue of the *Doncel* (young nobleman) to the great Valencian sculptor of the early XVI century—Damián Forment.

Now comes another investigator, Don Ricardo de Orueta, with his *Escultura Funeraria en España* (Madrid, 1919). This work aims to catalogue all the funerary monuments of artistic merit in the kingdom—a giant's task, for Spain is particularly rich in such works. The first volume embraces the three provinces of Ciudad Real, Cuenca, and Guadalajara, in which last the town of Sigüenza is situated. The second volume, on the province of Toledo, is now in the press. No student of the subject knows more about Spanish sculpture than Don Ricardo. His published works, on Pedro de Mena, on Alonzo Berruguete, on Gregorio Fernandez, would alone be sufficient to warrant this statement; but those who have visited his den in the *Residencia de Estudiantes* and have seen his collection of photographs, drawings, and notes, know that the books thus far published represent but the smaller portion of the material gathered. With his unequalled opportunities for study and comparison, and his trained and cautious judgment, we yield to his opinion rather than Dieulafoy's as to the authorship of the anonymous statue of Sigüenza.

Never was youth, aristocratic youth, more delicately portrayed than in this alabaster figure of Don Martin Vásquez de Arce. Among the several distinguished sepulchral monuments in the family chapel (Capilla de Santa Catalina) in the Cathedral of Sigüenza it is easily the masterpiece. But this is too timid a pronouncement. Let me dare to say that it is one of the world's masterpieces.

Reclining on a cushion of laurel, an open book in his hands, the legs carelessly crossed, Don Martin's lithe body, though clothed in armor, bespeaks complete ease and abandonment. Neither the rigid pieces on arms and legs, nor the the coat of mail on the torso, have been able to disguise the grace and insouciance of the youthful warrior who, for a brief moment snatched from the field, has thrown himself down and forgotten the harshness of war in the verses of some loved poet. On his cape, tossed over the shoulders, is the insignia of the Order of Santiago. The face is serious, but more inclined to break into a smile than to lapse into sadness. In fact, the only touch of sadness in the whole composition is the diminutive page who sits, Turk-fashion, at the feet of his master, waiting, cheek in palm, for the reader to close his book and give the signal to move on to his tent. Thus, to quote Orueta, the emotions which this piece of sculpture awakens are those of "youth, elegance, spontaneity, gentleness, lassitude, and, in a vague way only, sadness." A poetic combination of emotions, truly. But to my own mind the last, sadness, is evoked

not so much by the figures as by the inscription painted in the background. To die so young, and when the final triumph of the long Moorish wars was so near at hand, was indeed sad.

HERE LIES MARTIN VÁSQUEZ DE ARCE, CAVALIER OF THE ORDER OF SANTIAGO, WHOM THE MOORS KILLED WHILE WITH HIS CAPTAIN, THE MOST ILLUSTRIOUS SENOR, THE DUKE OF INFANTADO. HE WENT TO THE SUCCOR OF A PARTY OF SOLDIERS FROM JAEN IN THE BIG TRENCH IN THE VEGA OF GRANADA. HIS FATHER, FERNANDO DE ARCE, RECOVERED HIS BODY IMMEDIATELY AND BURIED IT IN THIS HIS CHAPEL IN THE YEAR MCCCCLXXXVI. IN THIS SAME YEAR THE CITY OF LORCA AND THE TOWNS OF ILLORA, MOCLIN, AND MONTEFRIO WERE REDUCED BY ASSAULTS IN WHICH FATHER AND SON TOOK PART.

From another inscription, that around the top of the sarcophagus, we learn that Don Martin was killed at the age of twenty-five "while fighting the Moors,

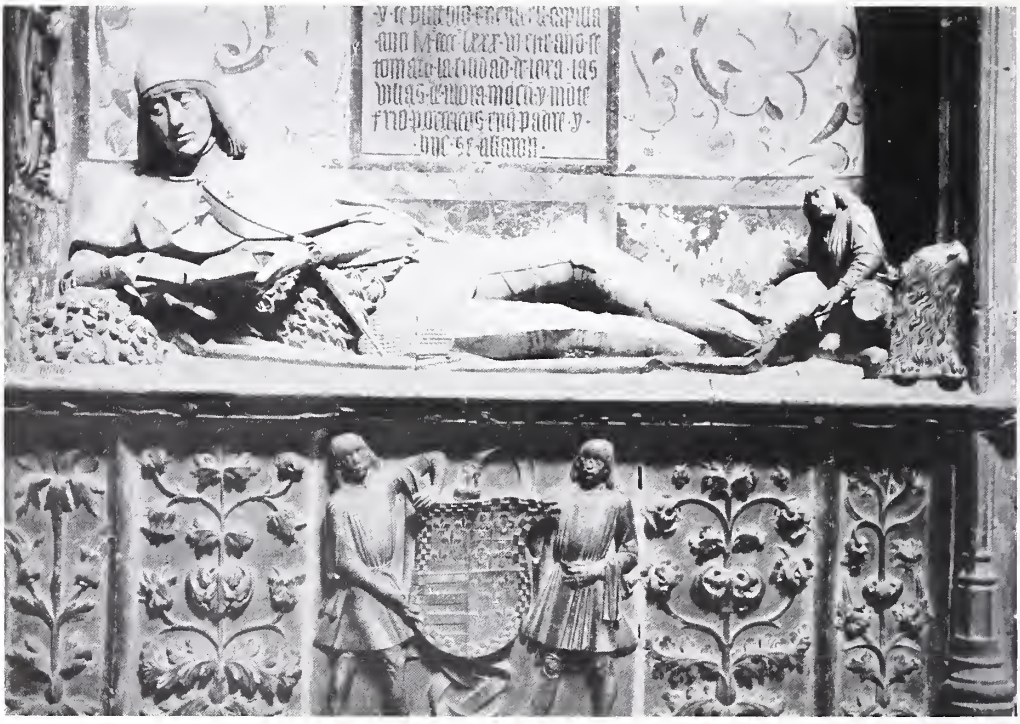


DETAIL—TOMB OF DON MARTIN VÁSQUEZ DE ARCE.

enemies of our Holy Catholic Faith, in the Vega of Granada." One feels a paternal tenderness for the youth. One looks longer and closer, and then perceives that though the book is heavy the hands do not grasp it—they barely support it; that it might be a jewel, so lightly do they touch it; also one perceives that the slim supple body might be weary under its coat of mail, and that the eyes bent upon the book do not see it. The oblivious youth is dreaming; and dreaming suggests death, when the soul wanders off forever; and this suggestion of death is what every Christian mortuary statue should evoke. This is the esthetic



TOMB OF DON MARTIN VÁSQUEZ DE ARCE IN THE CHAPEL OF STA. CATALINA, SIGUENZA CATHEDRAL.



DETAIL—TOMB OF DON MARTIN VÁSQUEZ DE ARCE IN THE CHAPEL OF STA. CATALINA, SIGÜENZA CATHEDRAL.

charm of the Sigüenza work—that gently, with nothing of brutal presentation and physical repulsion, we have been touched by the inveterate sadness of death.

Orueta's paragraph on the composition of the figure, from the practical sculptor's point of view, is an excellent bit of analysis, especially where he speaks of the *banged* and *bobbed* hair which the Florentine statues have made familiar to us—nothing more, he points out, than two blocks of alabaster at each side of the face, scored by waved lines, yet filling and nullifying the angles which the shoulders form with the head and which are particularly ungraceful in a reclining figure supported on one elbow. These formless blocks of hair gave the sculptor one single line that starts from the cushioned elbow, rounds the helmet, and ends at the tip of the foot in one continuous, gentle undulation—the synthesis of lassitude. For more than this was the hair useful: by bringing it forward it threw into shadow the lines of an excessively thin neck; and this neck had to be thin not only to exaggerate the effect of slender youthfulness, but also to increase, by contrast, the boyish roundness of the face. A fuller neck would have necessitated fuller cheeks, and these would have been to the spiritual detriment of the head. In short, if hairdressing had been in the last decade of the fifteenth century what it became soon after—the short close cut—the sculptor could not have used this posture, for the shoulders would have been angular, the neck strained, the face by comparison broad and bony, and the head badly posed. In these accurate observations it is easy to recognize that Ricardo Orueta is himself a sculptor and has faced the problems that the recumbent figure presents.

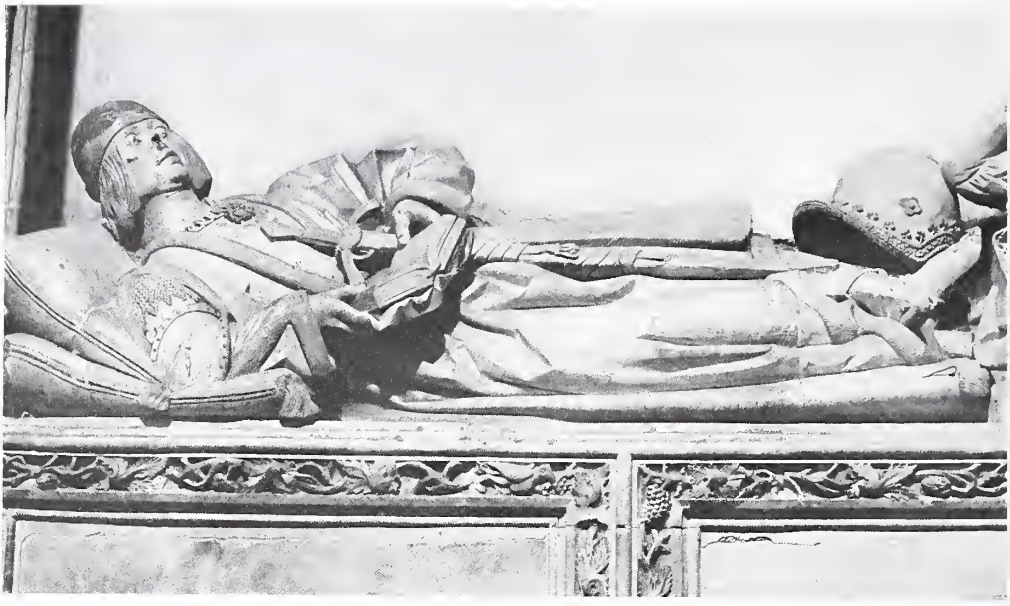
When it comes to the question of authorship we are gratified to find that Orueta confesses to what each of us feels at first glance—a *recuerdo* of Donatello; something of the youth and graceful pro-

portions of the San Giorgio, or the San Giovanni; but Donatello died twenty years before the Moors killed the young nobelman of Sigüenza in the great trench in the Vega of Granada. The Spanish monument is nevertheless twenty years behind Donatello in execution—more Gothic than anything of the Italian master's. The Gothic of its architectural setting is, moreover, strictly Castilian—Gothic of the Ferdinand and Isabella period. What most approaches the Italian is the spirit animating the work. It is not the deeply religious spirit of Spain; nothing of the horror of death nor the beatitude of resurrection; no patron saint nor Biblical scene. Only a little page awaiting his young master's pleasure. Here life is comprehended as the one sure positive value; the sculptor has been content to let the future life take care of itself, without any hint of propitiation. When this point was reached in Spanish sculpture, when life was seen as a beautiful thing in itself, then was the Gothic spirit nearly departed and the Renaissance about to enter.



THE DE ARCE FAMILY CHAPEL (CAPILLA DE SANTA CATALINA), IN SIGÜENZA CATHEDRAL.

Still this faint Florentine breath which the Sigüenza statue exhales is not sufficient warrant for assuming that the sculptor even saw the great Florentine's work. If he had, argues Don Ricardo, he could not have remained so backward in technique, nor have clung so tenaciously to



TOMB OF EL CONDE DE TENDILLA IN CHURCH OF SAN GINÉS, GUADALAJARA.

the old-fashioned Gothic ornament, nor have seized only the spirit that animated the Renaissance master without interesting himself in aught else. Still less can our author consent to father it upon Sansovino, who has also been suggested, the only basis being Vasari's statement that Sansovino went to Portugal in 1491 and remained there for several years. Nothing, declares Orueta, could be farther from the highly finished technique of that sculptor, nor his pagan materialism, nor his devotion to classic ornament. Indeed, any other tomb in the De Arce chapel shows more influence of Sansovino than this of the *Doncel*. Dieulafoy's attribution to Damián Forment is likewise refuted on the ground that the Valencian was a more expert technician, to say nothing of his proportions being always far less elegant, and his drapery and arrangement of the figure always academic.

In short, for our Spanish critic the unknown creator of this beautiful piece was a Castilian. If in Castile it had a prototype, that prototype was the statue of the Count of Tendilla in the church of San Ginés in Guadalajara, near by. This knight also holds a book, and his page sits waiting drowsily at his feet; but between his rigidity and the indefinable ease of Don Martin, between his literalness and the latter's poesy, there is an enormous gain in artistry. In technique several other works in this same cathedral of Sigüenza, also one in a parish church, resemble our subject, in view of which Orueta arrives at the conclusion that here, at the end of the fifteenth century, existed a *taller,* or atelier, of sculptors employed by the bishop and sent afield through the diocese. Among these sculptors the finest artist, though not the most expert technician, was the author of *El Doncel.*

Can any other statue be attributed to him? Yes, answers our investigator. The kneeling figure (*orante*) of an artizan in the little church of Santa María de los Huertos. Imbedded far up in the wall beside the High Altar, this figure bears the name Maese (Maestre) Juan. Owing to its position a good photo of this work is impossible, but even in the rather indistinct enlargement given the reader can readily see on what grounds Orueta attributes it to the author of the De Arce statue. Maese Juan, we learn, was the architect of the church, which bears the date 1512. The architect (who in his day pretended to be nothing more than a humble builder) is leaning on a homely

pick-axe, clasps his homespun cap between his joined hands, and is dressed exactly like the three Sigüenza pages—the one already described and two more upholding the De Arce escutcheon on the sarcophagus. The face, in shape and in its planes—our critic spent half a day atop a ladder verifying this—is like Don Martin's, and in the proportions, the easy posture, and the sure touch in blocking out the masses, there is further resemblance. Now, as architects were often sculptors as well, and as sculptors carved images of themselves, as in the case of the immortal Maestro Mateo of the Portico de la Gloria in Santiago, or Juan de Badajoz in the cloister of Carrión de los Condes, so this Maese Juan may have been a sculptor, and author not only of his own commemorative effigy in the church he built, but also of the mortuary monument of young Don Martin de Arce who fell on the Vega of Granada. Thus, this local architect-sculptor, a Castilian unknown to fame until Orueta advanced his very logical thesis, was of sufficient genius and personality to direct a regional school, with his own works at the head of all its productions. Diligent search in the archives of the cathedral have not cleared up the question, nor is it likely that we shall ever get a more satisfactory solution than the one here offered.

Sigüenza, the town that owns this treasure and many more, lies about midway between Madrid and Zaragoza. Hard, bare, stony, with a cathedral dominating all, its aspect recalls the Italian hill towns. The cathedral, Romanesque merging into Gothic, is one of those long-building, beautiful transitional examples in which Spain is richer than any other land, and within its massive walls it guards a wealth of fine ironwork and sculpture. Alongside the railroad station a little inn offers tolerable shelter, so that there is no excuse for rushing through, as so many do, on the *rapido,* without stopping to admire what this dead old medieval town offers in such abundance.



COMMEMORATION STATUE OF MAESTRE JUAN, ARCHITECT, IN CHURCH OF SANTA MARIA DE LOS HUERTOS, SIGÜENZA.



DETAIL OF THE COURT
OF LA RABATERIE.



ELEVATION SKETCH OF THE HOUSE FROM THE WEST

La Rabaterie

Logis d'Olivier le Daim, near Tours, France

By Joseph P Sims

LA RABATERIE lies on the Chemin dit de la Rabaterie, just back of the Jardin des Plantes, on the outskirts of Tours. A short distance away and to the west lies Plessis-les-Tours, with whose history that of La Rabaterie is closely linked. Although little seems to be known by the local historians concerning the later history of the house, the fact is established that it was owned by Olivier le Daim, the crafty barber and later minister of that most sinister of kings, Louis XI. It may be assumed that it was built during the fifteenth century, and is probably contemporary with the additions and extensions made at Plessis-les-Tour during the reign of that monarch. It is at present occupied by several peasant families; and the adjoining fields are cultivated by them to the walls of the building itself, with that care and success in which the French peasant is such a past master.

The interior of the house has been so vastly altered in the course of years to meet the changing demands of its tenants, that it bears slight resemblance to what it must have been like during its early history, and a detailed plan of its present condition would be of little value. The main body of the house faces east, running parallel with the road, and at the back are projecting wings at either end, while in the center rises the stair tower. To the west, the fields under high cultivation stretch on a level table land toward Plessis-les-Tours and the conflux of the rivers Loire and Cher; to the south are grouped low outbuildings and a farm yard. Along the road to the east is a high stone wall carrying around the north side as well, and this, together with the



THE HOUSE FROM THE WEST

outbuildings at the south, insures that privacy which the French house, great or little, is so seldom without.

On the second floor a great hall, now in ruinous condition, runs half the length of the house, with a hooded fireplace at the south end, of that type so familiar in the work of this period. Windows look out to the east over the outskirts of Tours. The exterior shows excellent stone masonry with brick chimneys and brickwork here and there in the walls themselves, which with the tile roof, gives the surface a variety of texture and play

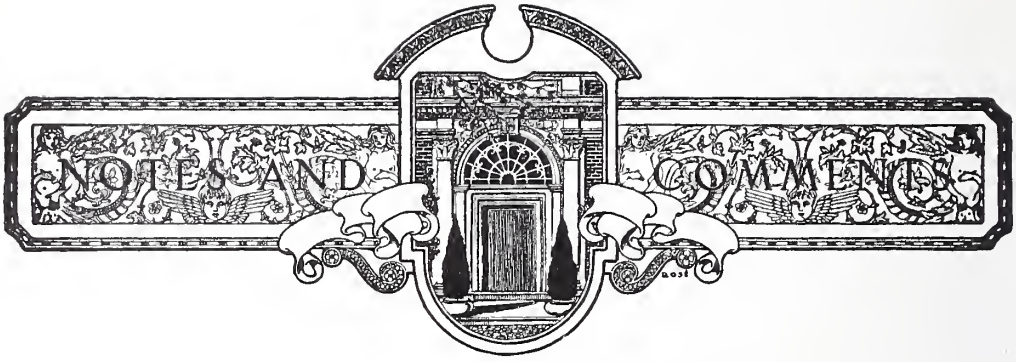


END WING AND OUTBUILDINGS

of light and shade that is most interesting. One imagines that in the original scheme there must have been gardens to the west and south, and some fragments of garden architecture still visible, lend color to the idea. One of the histories of Touraine, speaking of La Rabaterie, says: "One cannot help imagining that on these somber walls rests the fatal shadow of the barber of Louis XI, that Olivier le Daim who was sometimes called Olivier le Diable."



THE FRONT FROM THE CHEMIN DE LA RABATERIE



An Apology and a Correction.

In publishing certain examples of the work of William Lawrence Bottomley, in its November and December numbers, this magazine committed one of those particularly unfortunate errors of omission which seemingly involve innocent persons in a a breach of good faith—in this case, Mr. Bottomley and Mr. Colton. The omission of the names of collaborators on several of the buildings was exclusively our fault. Mr. Colton, in a paragraph beginning "Mr. Bottomley has done a great deal of work in association with other architects distinguished in design," gave the proper credits for all the buildings that were to be illustrated. This paragraph appeared in Part I of the article. The member of our staff who edited Part I removed the names of those architects whose work was not shown in Part I (November), intending for the sake of clearness to insert them in Part II (December). However, owing to his iliness, Part II was edited by another staff member, and the matter of the omitted credits was most unfortunately overlooked. We offer sincere apologies to all who were injured thereby and ask our readers to note the attributions of authorship in the following complete list, which has been verified by Mr. Bottomley:

Municipal Building, Plainfield, N. J.: Lawrence F. Peck and William Lawrence Bottomley, Associated Architects.

Canoe Place Inn, Shinnecock Hills, L. I.: William Lawrence Bottomley, Architect.

Turtle Bay Gardens, New York City: Edward C. Dean and William Lawrence Bottomley, Associated Architects.

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Residence of Ernest P. Davies, Esq., Roslyn, L. I.: William Lawrence Bottomley, Architect.

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Residence of Faris Russell, Esq., Mill Neck, L. I.: William Lawrence Bottomley, Architect.

Apartment House at 1049 Park Avenue, New York City: J. L. Mills, W. L. Bottomley, Associated Architects.

American Metalwork and Fixed Decorations.

The definite character inherent in any well designed house, built in the early American tradition, largely results from the association of a number of minor elements. To the fastidious critic the effects of a fine piece of architectural design may be very much marred by the use of accessories whose quality, whether in design, execution or finish, is below that of the main design itself.

The modern house, the origins of whose design lie in eighteenth century America, is assuming in the architect's hands a marked distinction and finish. To keep pace with this architectural excellence, the metal accessories



LEADED TRANSOMS AND MANTELPIECES OF THE THIRD QUARTER OF THE EIGHTEENTH CENTURY AND THE FIRST DECADE OF THE NINETEENTH CENTURY, WITH APPROPRIATE SETTINGS.

should follow equally good precedent. The fittings and appointments of the American house of the eighteenth century offer a very great variety of interesting and beautiful originals, from which new designs in the spirit of the old may be developed. In the colonial period and the first decades of the Republic, the settled social conditions produced households whose standards of living varied almost as widely as is the case today. For this reason we can find in the relics from the eighteenth century, work of all degrees of quality, from the simplest provincial product to pieces showing the most finished and delicate craftsmanship.

The chief items of the class to which we refer fall into the group of so-called fixed decoration, which really forms an integral part of the architectural scheme of a house and which engaged in the early days some of the finest craftsmanship of the time. To show a group of this material, a small exhibition was recently held at the Metropolitan Museum of Art. In choosing the objects to be shown, the predominant idea was chiefly that of their interest and value to the man who is building today in the tradition of early American domestic work of the eighteenth century. The group included interesting treatments of door hardware, leaded glass transoms and sidelights, andirons, fire tools, firebacks and lighting fixtures of various sorts, which had been gathered together not with the idea of showing every variation of any type, but to include chiefly pieces which contain suggestion for modern application and use.

Certain parts of the house were the object of treatments in well wrought metal. About the entrance door the craft of the metalworker gave us fine work in wrought or cast brass, bronze, iron, pewter or lead. The most important of these door fittings is the knocker, and upon it was usually expended the chief elaboration. The great S-shaped knockers of the middle of the century were imitated in all sizes down to that small enough for use on interior doors. The very large collection of door knockers shown in the exhibition illustrated all the important types, including the sophisticated designs of Adam or Empire in-



GROUP OF HINGES FROM THE EIGHTEENTH CENTURY.



DOOR HARDWARE FROM THE SEVENTEENTH, EIGHTEENTH AND NINETEENTH CENTURIES.

fluence. This group is probably unexcelled by any other collection. The old knockers are more than difficult to find nowadays and the really fine examples are practically unobtainable. With these knockers were used fine locks of brass or iron, strap hinges of various types, and latches with grip handles. Late in the century transoms and sidelights of glass with divisions of lead or pewter were used above and at each side of the doorway. Examples of all of these were shown.

No less carefully treated were the interior doors, where locks and latches of brass and iron, and hinges of the strap, "H" and "H and L" varieties were adjusted to the scale and weight, and painted the same color as the woodwork. Among the iron hinges were shown two large pairs for outside doors, one designed for a set of double doors in a round headed opening, the other for a similar pair in an elliptically headed opening.

About the fireplaces much of the finest metalwork in the house was grouped, including andirons, shovels and tongs, cranes and fenders, which may well form essential elements in the design of the mantlepiece and fireplace. Cast iron firebacks are additional equipment, and show typical designs of Biblical or purely decorative origins—some of the earliest casting of iron in the colonies was thus used. Fenders in brass and iron were shown, one of wrought iron in simple design, enhanced by brass knobs, and another in pierced brass employing a decorative use of the American eagle.

The lighting fixtures of the time are a department of beauty and variety in themselves. Most of the illumination came from small portable lights, such as the Betty lamp, rush light, candlesticks and candelabra. This was in the earliest days, but during the eighteenth century a large variety of ceiling lights, sconces, candlestands and lanterns made in metal and glass were developed for daily use. By no means was the lighting of the more elaborate houses limited to the work of American craftsmen. Many examples of elaborate sconces and chandeliers were imported. Brass and cut glass lustres, sconces and candelabra were employed in the more handsome interiors, while girandoles in carved wood or moulded plaster presented very high qualities of design and workmanship. Among the wall and ceiling fixtures shown were candlestands in iron and brass, girandoles in carved wood and ornamental plaster and hall lights of thin blown glass suspended on chains from the ceiling.

CHARLES OVER CORNELIUS.

Prizes of Rome in Architecture Sculpture and Painting.

The American Academy in Rome announces its annual competitions for fellowships in architecture, sculpture and painting. Each fellowship is for a term of three years, with a stipend of $3,000 and opportunity for travel. Studio and residence at the Academy are provided free of charge. The competitions, which will be held in various institutions throughout the country and will probably begin in late March or early April, are open to all unmarried men, citizens of the United States. Entries will be received until March 1. Any one interested should apply for application blank and circular of information to Roscoe Guernsey, executive secretary, American Academy in Rome, 101 Park avenue, New York City.

The ARCHITECTVRAL RECORD

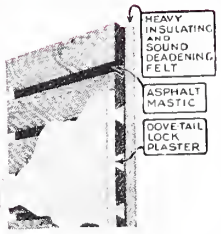


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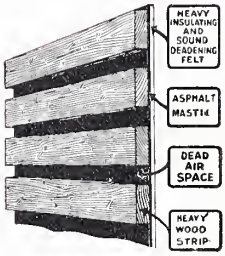
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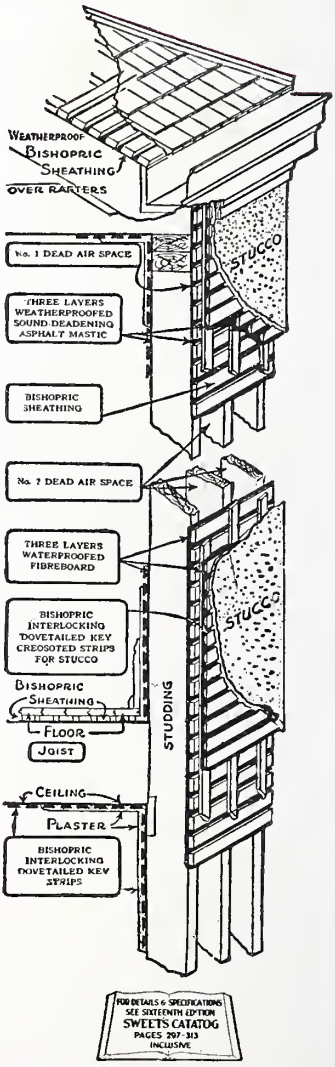
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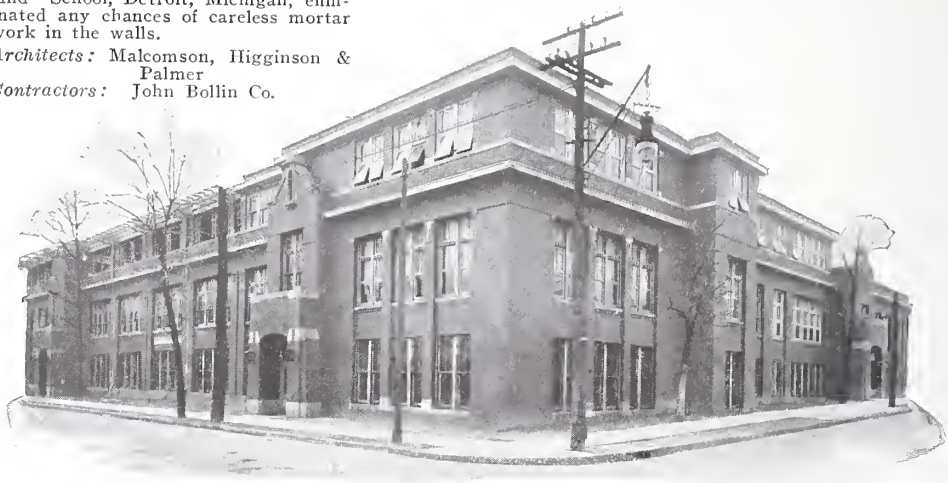
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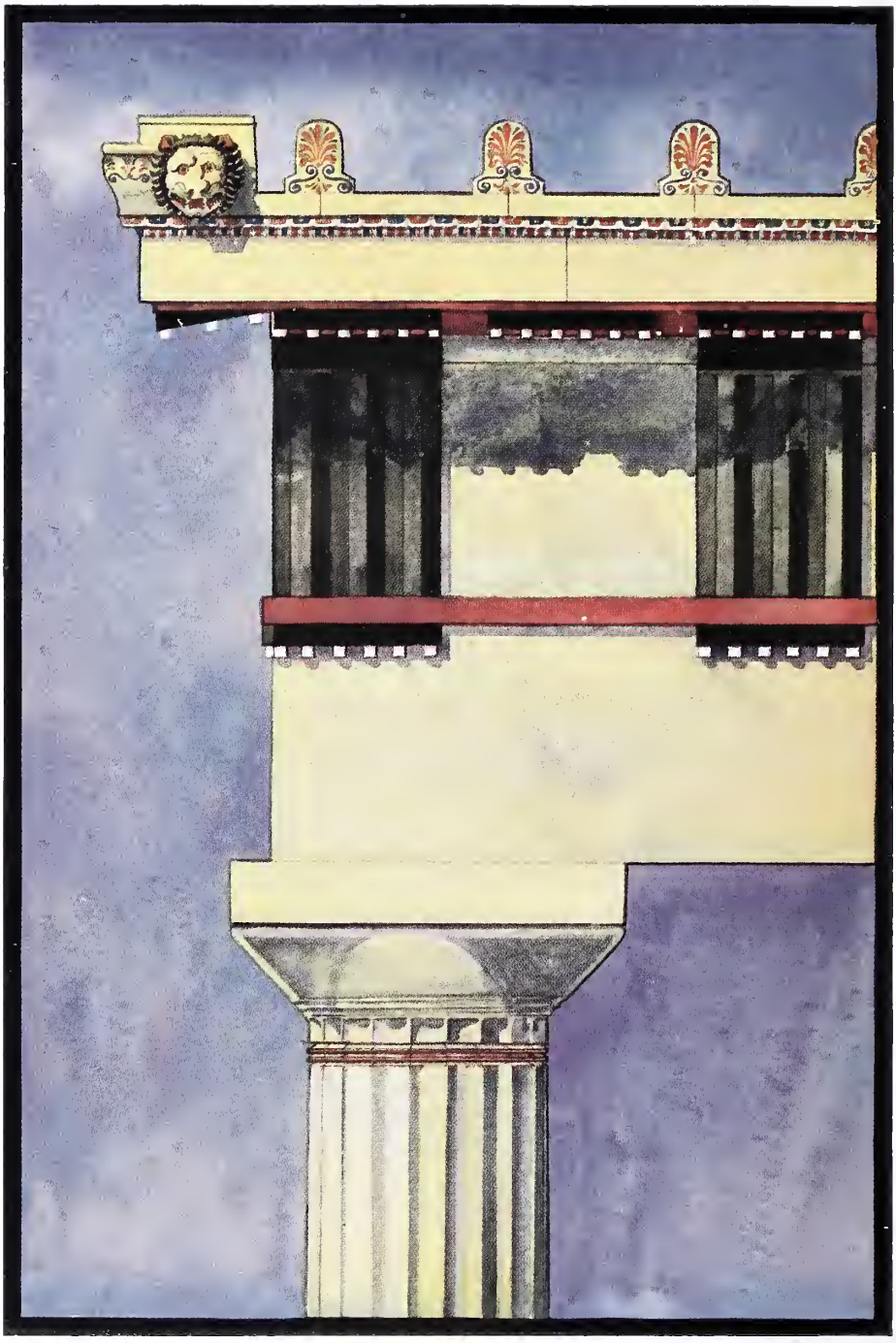
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ARCHITECTVRAL POLYCHROMY

BY LEON V SOLON

PART II

Defining the Species of Artistic Impulse which should Actuate the Creation of Color Effect in Architecture

COLOR, as a vehicle for effect, has quite another significance or capacity in the mind of the painter than it has, for instance, in the estimation of the textile designer. With the painter, it is essentially a medium for imaginative stimulation; in the purely decorative arts its capacity is directed towards the creation of sense appeal; each of these artistic activities utilizes color for the realization of different ideals. As the dominant ideals of arts are never identical or interchangeable, methods of procedure evolved in the expression of those ideals are inseparably identified with the art in which they originated. This involves an important consideration which must be kept in mind when we review color methods which might serve for our guidance and assist us to determine that precise character of color effect which is appropriate to architecture. The contribution to effect which a decorative practice has the capacity to make to any particular art, cannot be paralleled in another art, merely by adopting mental or technical methods of procedure which achieve successful issue in their original association.

When an architect wishes to introduce color effect in his design for a building, without acquaintance with the laws which govern its architectural use, his natural inclination will lead him to simulate the painter's sensibility towards color, in order that he may establish scenic value. Considered from that point of view, his design becomes a "subject," upon which color interest must be developed as a separate artistic activity from his initial impulses, which were purely architectonic. Owing to the great dissimilarity which exists between the major aesthetic aspirations identified with pictorial and architectural effect, the realization will soon be forced upon him that progress in the direction of the painter's ideals entails the jeopardy of vital architectonic values.

This untenable position will compel the abandonment of the painter's stand-

point when formulating plans for architectural polychromy. The attitude of the decorative artist towards color as a medium for effect would in all probability be studied next by the architect. Here again disappointment awaits him, as he will have another opportunity of appreciating the impossibility of achieving equivalent results in two arts by using identical means; in addition, the decorative artist's vast resources of processes, textures and materials have no counterpart in architectural usage; manipulation of tone value and quality, which performs so important a part in the creation of decorative effect, is debarred from use for reasons which we will give later.

We must not forget that color, independently of its artistic association, possesses an inherent capacity to excite an elementary form of aesthetic consciousness merely by the visual gratification which it excites; in the strictest sense of the term it is a *decorative element*. Color effect in architecture can obviously rank only as a secondary and subordinate decorative interest; in the pictorial and decorative arts it constitutes a dominant factor. If, when planning color for architectural embellishment, we were actuated by an artistic impulse which, when operative in another art, causes color effect to become a major value, we should be employing an activity which differs essentially from our requirement; because the result we strive to obtain must necessarily be of the minor order. As the effect created with color in architecture must be of a contributory architectonic character, its decorative expression must have as direct a relation to the predominant aesthetic aspirations in architecture, as those which are identified with its use in the fabrication of impressions through painting or decoration. Its decorative significance must be purely architectonic; that is to say, the legitimate use of color is restricted to the investment of certain structural features with an additional form of scenic interest; architectural interest preponderating over color interest.

THE RELATION OF COLOR EFFECT TO MAJOR ARCHITECTONIC PROPERTIES.

In considering the employment of an indeterminate decorative quantity, such as polychromy, in architectural effect, where it will figure as an auxiliary to a closely inter-related group of artistic activities, its serviceableness is commensurate to its possible contribution to that content which is known as the "art" or "characteristic" beauty. This supreme quality results from the co-ordination of all integral aesthetic impulses, qualities and properties, which, during the creation of a work of art, have come into contributory being. This highest order of beauty is comprehensive and receptive in character—in a sense antithetical to the contributory nature of its ingredient elements. The characteristic beauty of architecture is that aesthetic content which exists in sublime examples, in which all other qualities are merged and linked together by their common factor of artistic contribution. It is so indefinite and comprehensive through the infinite variety of its component elements that the term "quality" is too specific for its description. This entity of architectonic beauty, evolved by a perfect adjustment of varied creative impulses, is itself void of impulse; it is as a *sense* that it affects our aesthetic perception. Such a sense affects us in the contemplation of the purest examples; it absorbs and dominates all individual excellences, enduring in contemplation as the ultimate objective of each aim; it might be designated as the *sense of beauty in statical force*.* If this may be accepted as the characteristic beauty of Greek architecture, or the super-quality which absorbs all others, we must endeavor to discover whether color use was considered from the contributory angle as being capable of adding to that content when conceived relatively,

*During the periods of greatest virility in Greek architecture, the existence of statical forces in physics was a subject of philosophical speculation. In the third century B. C. it was reduced to scientific form by Archimedes. It is not suggested that the great builders of Greece accepted a philosophic principle as a goal towards which inspiration was to be directed, but merely makes record that this preeminent quality which reveals itself in their structures had a contemporary scientific equivalent.



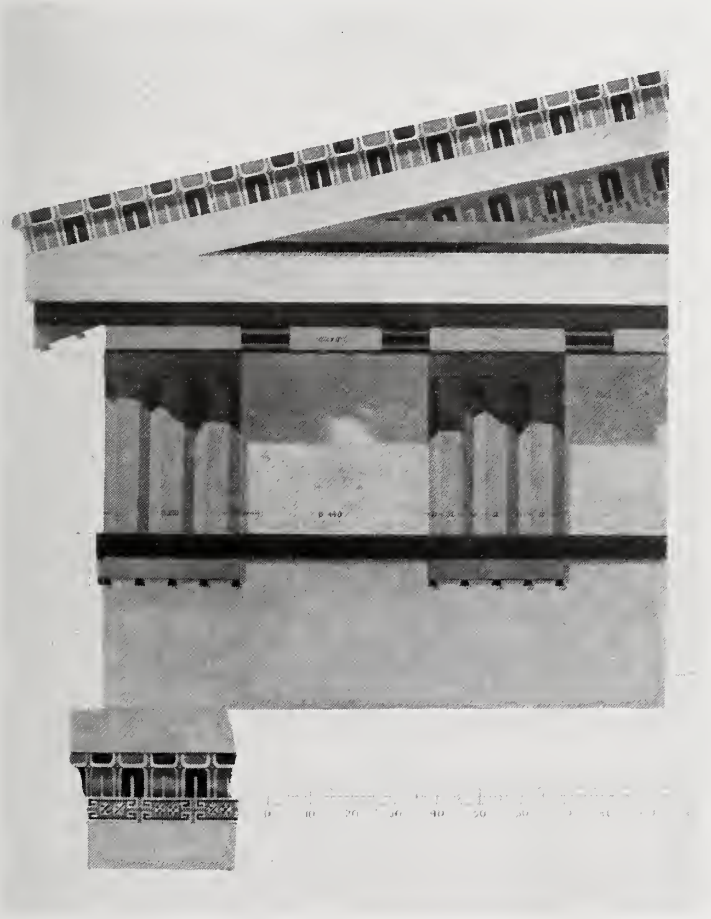
2. TEMPLE ON THE AKROPOLIS. RESTORATION BY WIEGAND.



3. PORTICO OF THE THESEION. RESTORATION BY FENGER. TREATMENT OF COLOR ON FRIEZE INACCURATE.

or of detracting from it when developed independently.

The achievement of beauty in architecture depends in a great measure upon the degree of skill with which elements of effect are co-ordinated through design.



4. SMALL TEMPLE, OR TREASURY, ON THE AKROPOLIS. RESTORATION BY WIEGAND.

Color is the most potent vehicle for emphasis in any form of scenic effect. Emphasis which is misplaced disorganizes the proportions and mutual relationship of previously adjusted aesthetic factors in a work of art, be it in a painting, in music, dancing, prose or poetry. If we introduce into an architectural scheme a decorative element which possesses an active capacity for emphasis, such as color, its presence alone accentuates the scenic importance of any member or item upon which it figures, thus altering the ratio of effect value which was allotted to that item in the original architectural conception. It is obvious, therefore, that the location and decorative development of color must be in a direct relation, and in complete subordination, to that adjustment of architectonic values which is the basis of excellence in architecture.

To test this theory it is necessary to ascertain whether there is any evidence in the highly organized architectural system of the Greeks, proving that they considered the addition of color capable of



5. POLYCHROME TREATMENT OF THE INTERIOR OF THE PROPYLÆUM. RESTORATION BY FENGER.

influencing architectonic values established in design. Polychromy was universally used in architectural effect by the Greeks. Insofar as the general location of color is concerned, they established a uniformity approaching standardization which characterizes their surviving examples. We must observe whether they avoided the application of color emphasis to items performing certain structural functions; also, whether essential and characteristic structural properties of specific architectural items were not enhanced when color effect was restricted to items of a reverse character. In other words, if the presence of color detracts from the apparent strength of essentially supporting members, their function might be emphasized should the apparent weight of the items they support seem less through color treatment.

THE RELATIONS ESTABLISHED BY THE GREEKS BETWEEN COLOR EFFECT AND STRUCTURAL VALUES IN ARCHITECTURAL COMPOSITION.

The architectural members of an exterior design may be separated into two main groups according to their structural significance: those which perform the function of weight-carrying, and those which are supported or are purely decorative in character. This method of analysis was adopted in the examination of those Greek structures of which the original polychromy has been reconstructed from data by archaeologists of unequivocal repute. The examples chiefly used were Curtius' and Adler's reconstructions of the temple of Zeus, the Treasury of Gela and the Heraion, at Olympia; those of Wiegand for the temples of the Akropolis and those of Fürtwangler at Aegina. Many other works were consulted; but as many of those previous to the Olympia excavations about 1887 have their gaps in data bravely filled with fanciful designing (which subsequent investigation and comparison have proven inaccurate) they were useless as data for the reconstruction of polychrome methods. Their utility was restricted to actual facts recorded relative to treatment of detail, which was of corroborative value. This criticism applies to the works of Hittorf and the restoration of the temple of Empedocles made under the auspices of the École des Beaux Arts. The key to the Greek polychrome system was discovered at Olympia, where the wealth of data recovered and the rigid adherence of the archaeologists to facts, enabled their successors to proceed upon secure ground.

Following the classification outlined above, the weight-sustaining group will include such items as column shafts and bases, the retaining walls, and the architrave; while the second group will comprise the cornice, all moldings and string-courses, the pediments and their sculptures, caps and abaci, anthemions, gargoyles, decorative roof tiles, and other such items. A valuable observation will at once be recorded; no color figures on any of the architectural items in the weight-sustaining group, whereas all those of the second group bear color in varying degrees.

As the degree of elaboration corresponded, on similar items of the different buildings examined, there was obviously some reason for this uniformity. In order to ascertain whether the degree of color development was regulated by architectonic considerations, all colored items were next grouped in order, according to the extent to which color featured upon them, beginning with the polychrome designs of five, four or three colors and ending with color bands and lines. The result brought forth a striking proof of the extent to which the Greeks subordinated color effect to structural properties in architectural effect. The items of this last group, which were arranged according to color treatment, were found to be in the order of their relative structural significance. The greatest degree of elaboration characterized the treatment of those features which were essentially decorative, such as the anthemions, gargoyles and mouldings, a simpler treatment was employed for applied architectural members such as the triglyphs and string-courses, a single color invariably decorating the former;

on the echinus of the Doric cap, and at the top of the shaft, color lines alone were used. The degree of color elaboration decreased from five color combinations to single lines, as the structural significance of the items decorated increased.

By obvious deductions drawn from these observations, the following rule was formulated to guide color location in architectural polychromie: *The presence of color upon any sustaining item of an exterior elevation tends to depreciate its appearance of structural strength. By confining its location to those items which are supported, are applied to surfaces, or are essentially decorative in character, color contributes to vital structural attributes by apparently reducing the impression of weight in those features. Color design must be adjusted in such fashion that its elaboration increases as the structural significance of the items decorated decreases.*

This rule should be applicable to the polychrome treatment of buildings designed after any of the structurally organized types of stylistic treatment. Any detriment to architectonic values ensuing from the introduction of color is inconceivable if its location and decorative development be regulated in accordance with what we believe was the Greek principle. It disposes arbitrarily of the initial and most perplexing problem—that of color location. As the architect plans the development of color effect upon a building, debatable points arise as to the advisability of polychromy upon certain features; also, as to the relative degree of color embellishment which he may permit himself on those features selected for adornment; such considerations are all met by the polychrome rule. The undertaking then resolves itself into a question of the individual's capacity to create effect with design. Examples of systematized polychromy in modern work are practically non-existent. The archaeological works bearing upon the subject are few in number, difficult to procure, and available only in certain of the greater libraries. They are written in various languages, and few readers have the good fortune to be masters of them all. Examples which typify principles are not of themselves illuminating, and are of little service for guidance in dissimilar problems if the principles they demonstrate are unformulated. The recognition of basic principles which guide the direction of effort, is the best insurance against squandering energy to ultimate error.



6. POLYCHROME TERRA COTTA.
Hair, Eyes and Brows, Black; Lips and Ear-rings, Red; Necklace and Design of Diadem, Purple; Petals of Palmette, Honey-comb, Chevrons and Moulded Leaves, Alternately Black and Purple. Figurative Terra Cottas, E. D. Van Buren.

Le Corti, near San Casciano, Val di Pesa, Italy

By Harold Donaldson Eberlein

ALTHOUGH Le Corti has been perched upon its lofty hilltop for six centuries, or perhaps somewhat longer, its present form dates from the early part of the sixteenth century (about 1520), when the villa was greatly enlarged and its aspect recast to accord with the accepted architectural ideals of the period. The bold mass is singularly imposing and, with its distinctive twin towers, the upper stories of which contain the seigneurial dovecotes, the building seems to dominate the whole countryside.

In plan the villa is a hollow square built about a large stone-paved *cortile* with an arcaded and vaulted loggia extending around all four sides of the ground floor. There were originally loggias on the east, west, and north sides of the first floor as well, but these were walled in at a later date to form long galleries, one of which, the eastern, is the family portrait gallery, while the western is the chapel gallery. The principal staircase ascends from the western loggia of the ground floor and gives access to the chapel gallery directly beside the door of the antechapel.

In the chapel itself, which contains an altar-piece and frescoes by Bernardino Poccetti, the walls are hung with alternate breadths of blue and yellow brocade upon which, in reverse color, are *appliquès* the foliated patterns while the flowers thereon are fully embroidered. All of this is *cinquecento* work and it is probable that the stitchery was done by the ladies of the family as a task of devotion.

The stuccoed walls of the exterior are of warm brownish grey which shows tawny salmon in the light of the westering sun. The shutters are painted the customary green. The trims of the doorways and windows are of a brownish-toned *pietra serena*. While the rustication of the east and west doorways is exceedingly bold and vigorous, the mouldings of the stonework exhibit a notable degree of refinement.

Unlike most of the villas of the neighborhood, Le Corti stands forth in severe and independent isolation, in the midst of an unadorned and treeless plateau, without any mollifying agency of gardens, *boscheria*, or *viale* of cypresses as items of immediate environment. Nevertheless, its aspect is not harsh. The fine old *viale* of huge cypresses, which ascends the hill from the gate and whimsically turns at right angles after achieving the summit, so as to fetch a straight approach to the east front, stops abruptly about eighty yards from the house.

On the north and south sides, beyond the low bounding walls, the ground falls rapidly away through orchards and vineyards, while on the west side, just below the verge of the hill, is the formal flower garden with its box-edged beds and its rows of lemon trees in huge earthen pots.

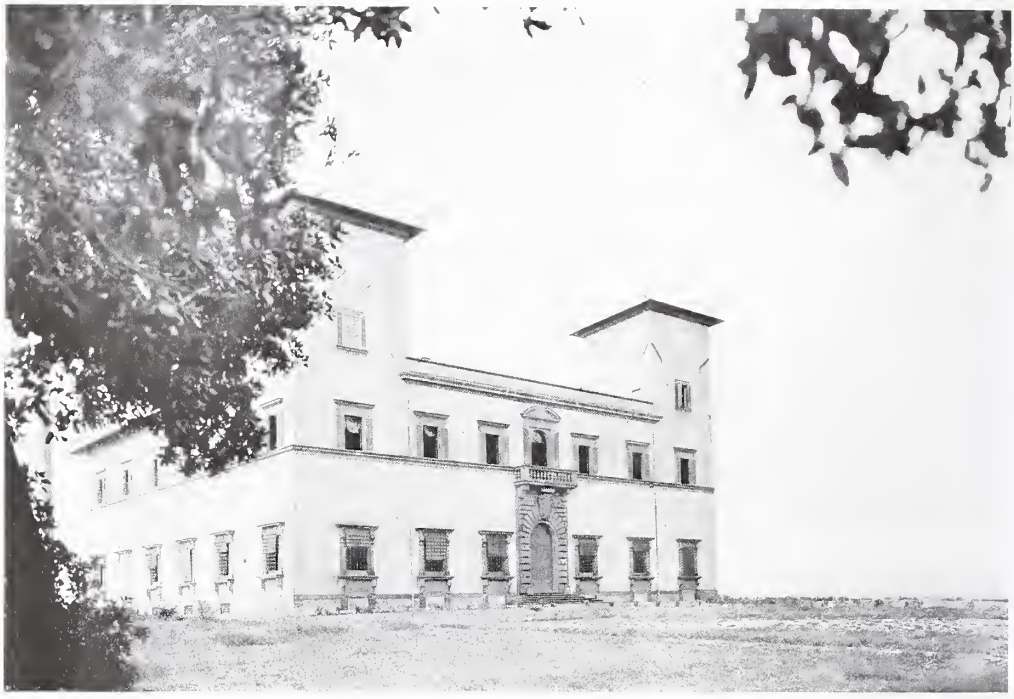
Considered as an entire composition—house and environment together—Le Corti presents a striking combination of virile austerity and restraint along with finished refinement and delicacy, a combination which must be dwelt upon for some time before one becomes conscious of its full force.



THE FLOWER GARDEN—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



EAST FRONT, FROM END OF THE VIALE—LE CORTI,
NEAR SAN CASCIANO, VAL DI PESA, ITALY.



EAST AND SOUTH FRONTS—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



SOUTH AND WEST FRONTS—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



ENTRANCE AND NORTHEAST TOWER—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



NORTH FRONT—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



THE GATE—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



NORTH DOOR—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



THE CORTILE—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



STAIRCASE, FROM THE CORTILE—LE CORTI,
NEAR SAN CASCIANO, VAL DI PESA, ITALY.



CHAPEL GALLERY—LE CORTI, NEAR
SAN CASCIANO, VAL DI PESA, ITALY.



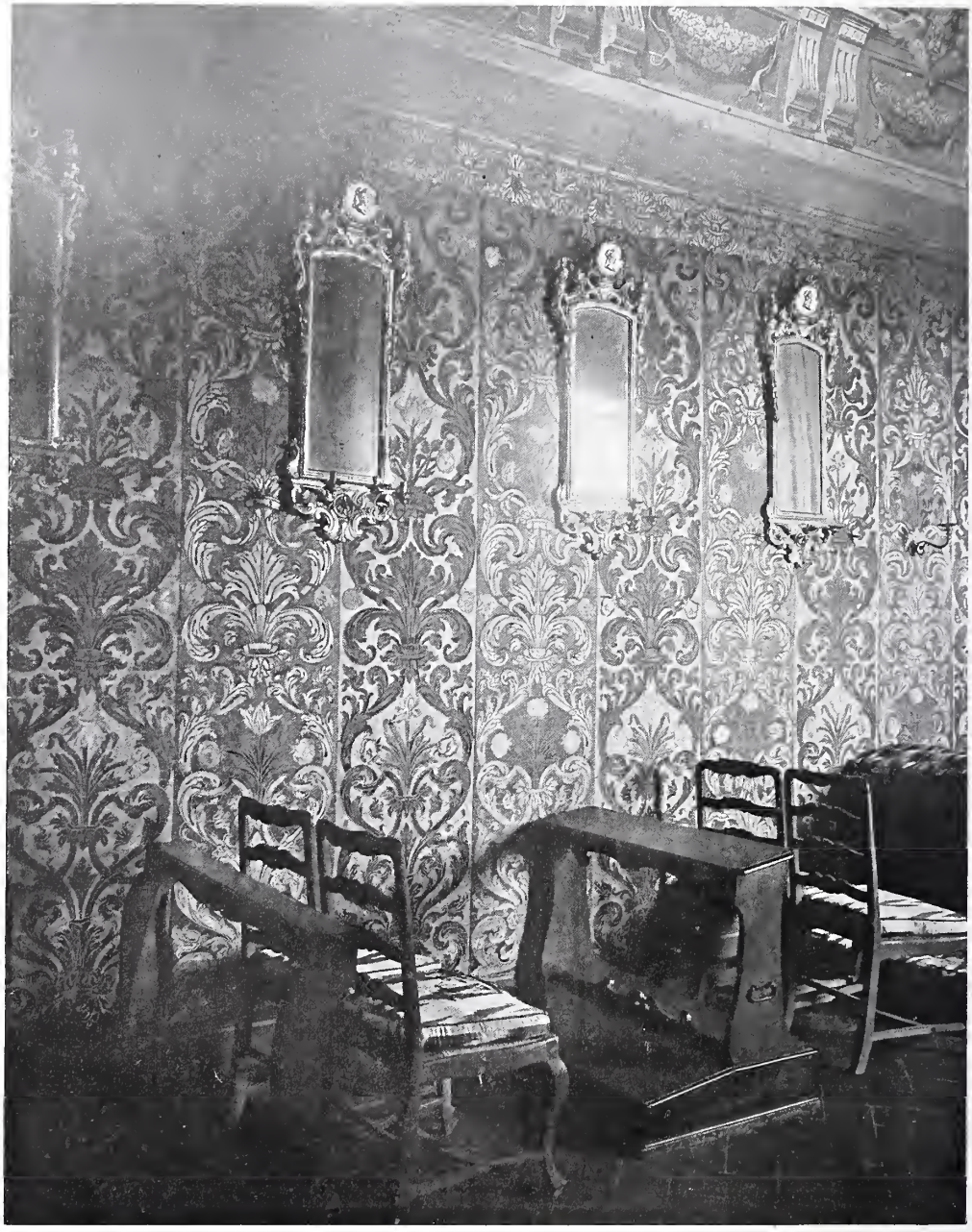
CHAPEL DOOR — LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



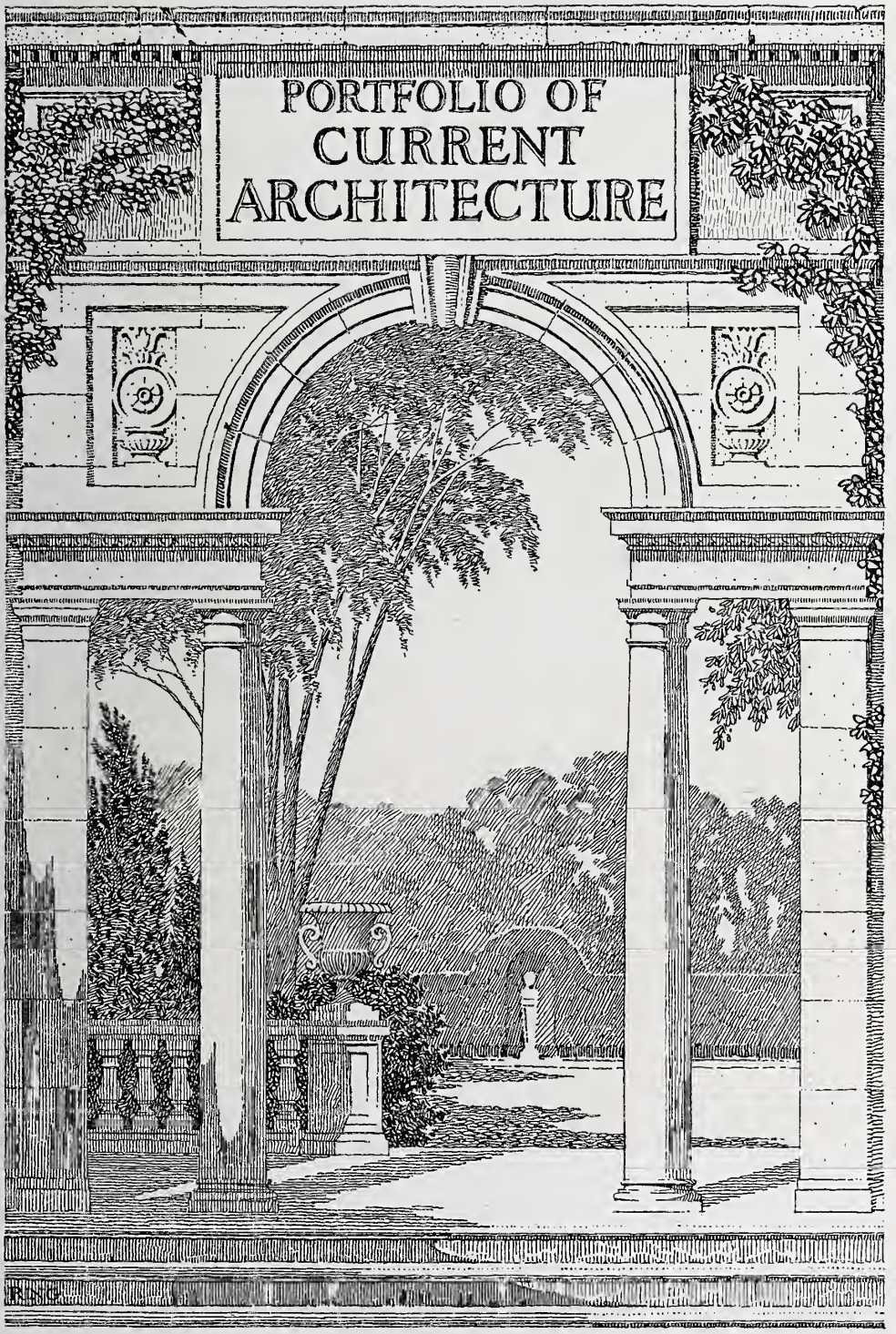
WEST GALLERY — LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



PORTRAIT GALLERY—LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.



CHAPEL WALL — LE CORTI, NEAR SAN CASCIANO, VAL DI PESA, ITALY.


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ENTRANCE DETAIL—THE DRIGGS HOUSE, WATERBURY, CONN.
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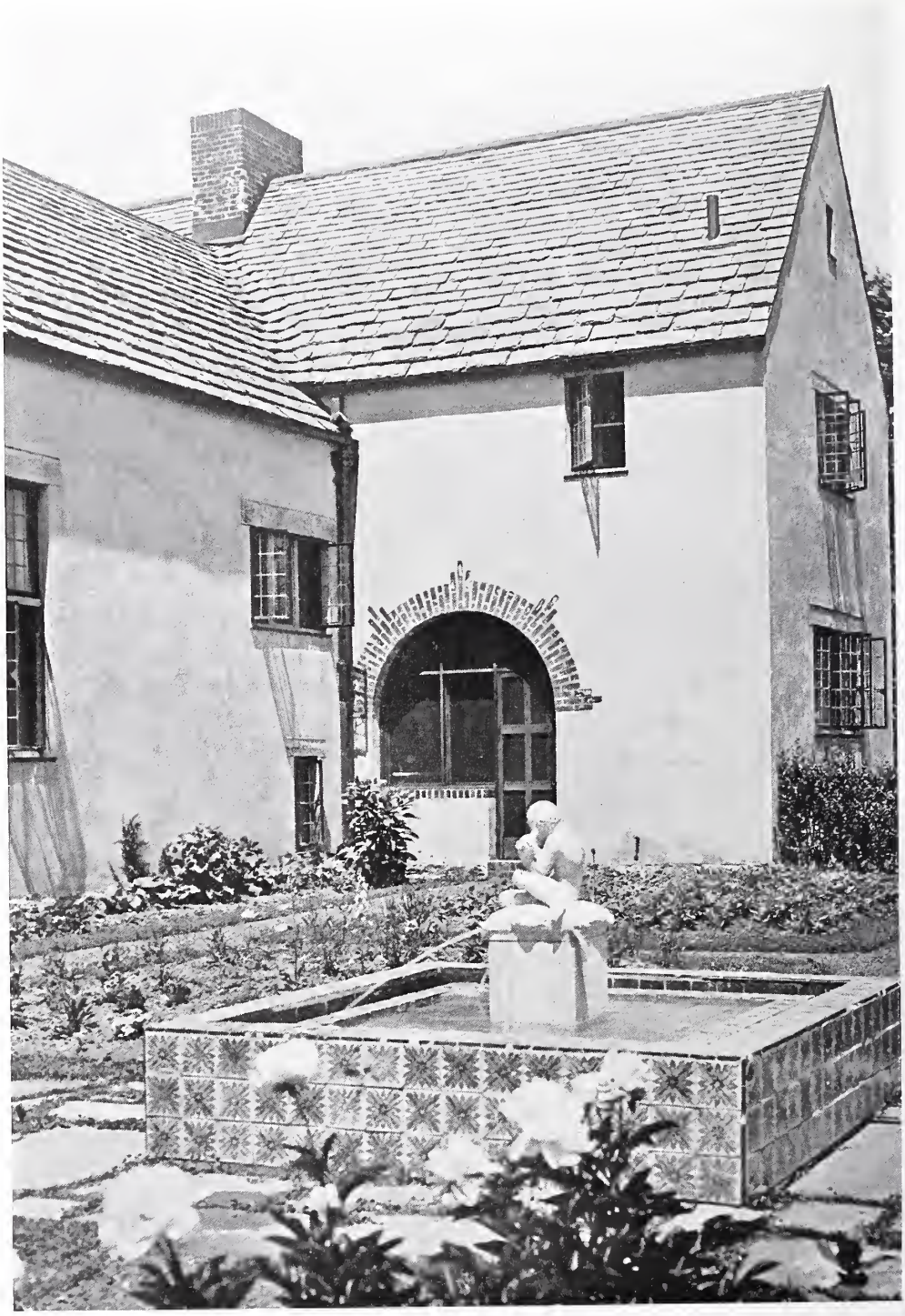
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LIBRARY—THE DRIGGS HOUSE, WATERBURY, CONN.
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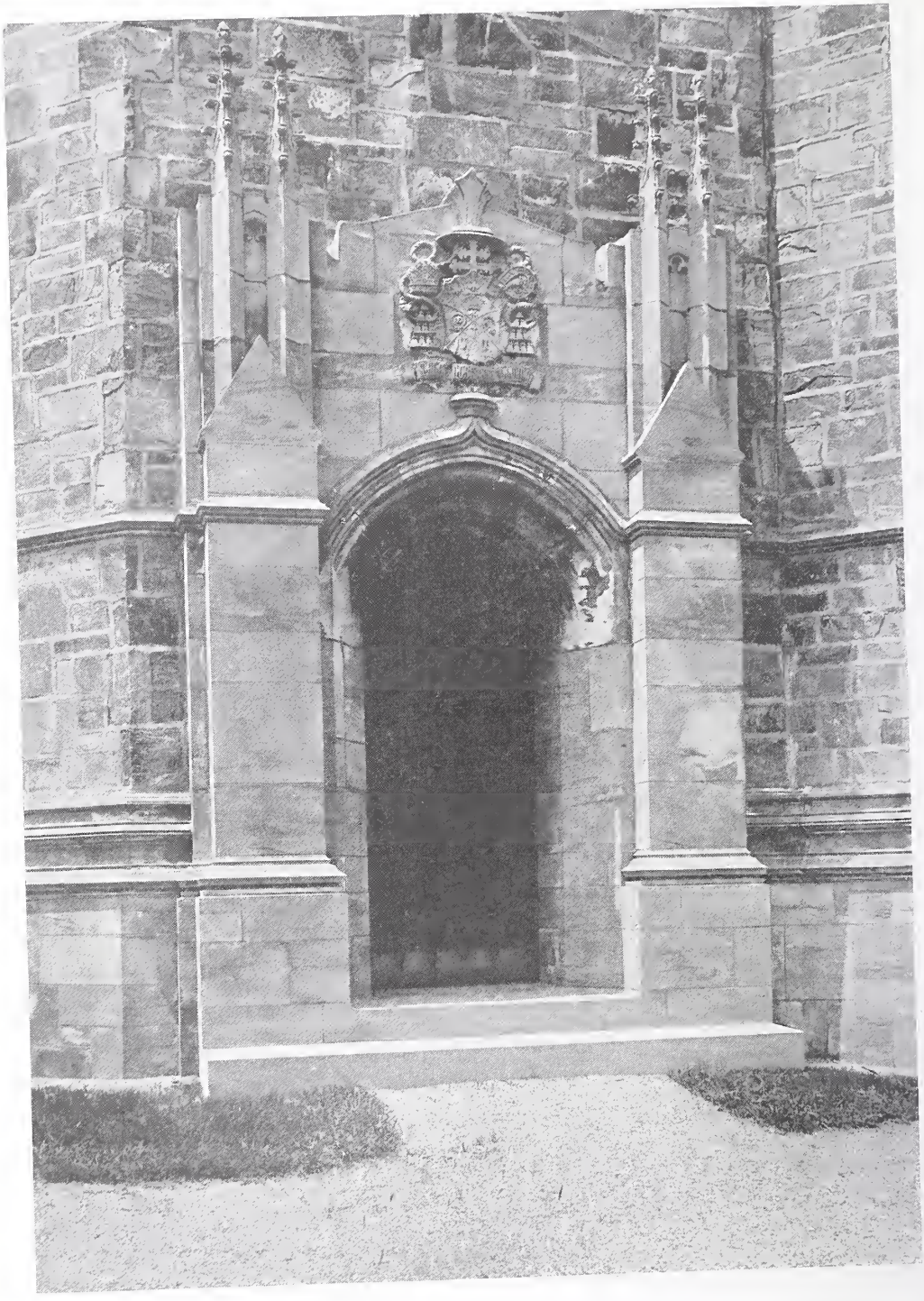
RESIDENCE OF FRANCIS L. S. MAYERS, ESQ., SHIPPAN POINT, CONN. FRANCIS L. S. MAYERS, ARCHITECT.



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WATER TOWER—CEMETERY OF THE GATE OF HEAVEN. C. W. LEAVITT, ARCHITECT.



ENTRANCE DETAIL—CEMETERY OF THE GATE OF HEAVEN. C. W. LEAVITT, ARCHITECT.



YALE POWER HOUSE, NEW HAVEN, CONN.
DAY & KLAUDER, ARCHITECTS.



YALE POWER HOUSE, NEW HAVEN, CONN.
DAY & KLAUDER, ARCHITECTS.



NEW HAVEN HOSPITAL, NEW HAVEN, CONN.
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NEW HAVEN HOSPITAL, NEW HAVEN, CONN.
DAY & KLAUDER, ARCHITECTS.



PULPIT—CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK CITY. HENRY VAUGH, ARCHITECT.



BABIES' HOSPITAL, PHILADELPHIA, PA.
CHARLES A. ZIEGLER, ARCHITECT.

The RESIDENCE of Mrs H LORILLARD CAMMANN 7 SUTTON PLACE—NEW YORK CITY

William F. Dominick—Architect

THE house of Mrs. H. L. Cammann at No. 7 Sutton Place is in a New York City block that has been acquired by several purchasers for reclamation on a more or less co-operative plan. There will be a common garden and the houses are "restricted" to private dwellings. The block lies in a tenement neighborhood, but has a fine site overlooking the East River and is convenient to the main business, shopping and theatre districts; and its reclamation for personal use by families of social position is in line with a movement which has recently gained unmistakable headway in New York City.

Each owner in this project was at liberty to employ his own architect, and the remodelling of Mrs. Cammann's house is the work of William F. Dominick.

What were formerly the rear windows look out upon the common garden, a block in length, below which is a picturesque stretch of the East River. Under the majestic Queensborough Bridge nearby pass the craft of the city, of Long Island Sound, and of New England, tracing their course in the swift current which is ever changing with glint and shadow.

In order to enjoy this picture, the more important rooms are placed at the back of the house and on the first or entrance floor the dining room opens out through glazed doors upon a balcony, whence a few curved steps lead down to the garden.

Mr. Dominick has substituted for the old straight run of stairs of the former flat house, an elliptical stairway, with an iron railing which rises to the second floor. Here a large living room or library looks out over the garden and the river through a broad bay window of casement sash.

In this room, one wall gives the effect of being entirely lined with books. The book-case is recessed in the wall, above two built-in cabinets, the doors of which are designed to frame some old carved Gothic panels. These panels give the key to the decoration of the room.

The stone mantel opposite is of a simple Gothic design, and two Italian Gothic lanterns, which have had electric lights ingeniously introduced, are pendant from the ceiling. The owner's bedroom is situated over this, so that here as well, the outlook is upon the garden and the river.

The walls and ceilings of the first and second stories, and of some of the bedrooms, are plastered in a rough sand effect, showing the marks of the plasterer's float, and tinted in the plaster itself with varying tones of warm yellow buff. This creates a contrasting and effective background for the tapestry, pictures and furniture, enlivening their colors and enriching the texture of the hangings and forms a colorful setting for the wrought iron stair rail and the decorative Italian lighting fixtures.

One must admire the breadth and restraint of the treatment and the skill of the architect who has achieved a house with so full a measure of comfort and atmosphere.



RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE,
NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



ENTRANCE DOOR—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



VIEW FROM FOYER INTO DINING ROOM—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



PICTURE WINDOW—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



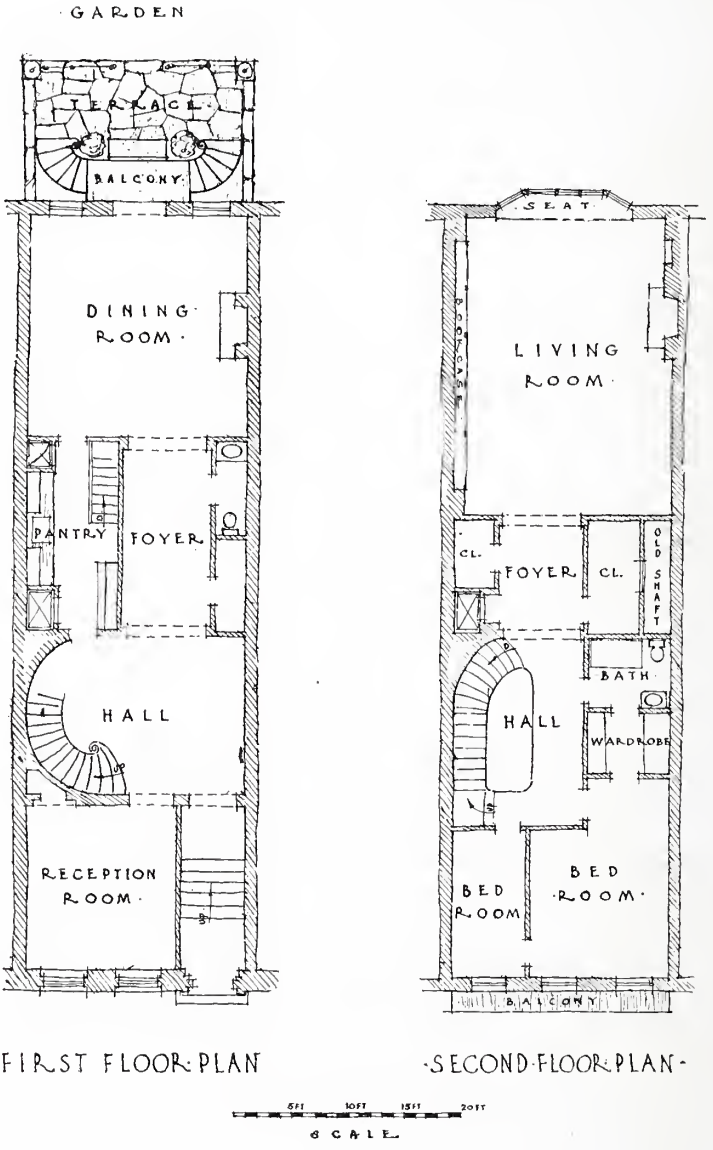
STAIR HALL—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



LIVING ROOM—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY.
William F. Dominick, Architect.



LIVING ROOM—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY.
William F. Dominick, Architect.



FLOOR PLANS—RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



FIREPLACE — RESIDENCE OF MRS. H. L. CAMMANN, 7 SUTTON PLACE, NEW YORK CITY. WILLIAM F. DOMINICK, ARCHITECT.



GENERAL VIEW—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



The PHILADELPHIA LEDGER BUILDING

ARNOLD W. BRUNNER, ARCHITECT

By

Matlack Price

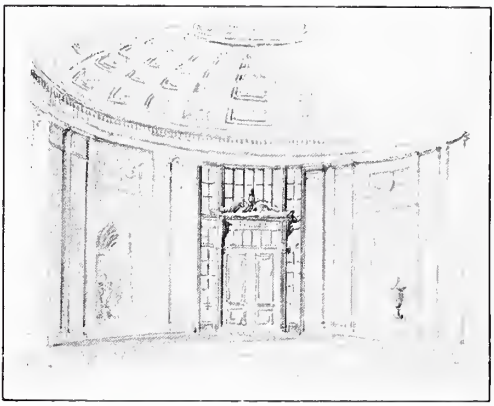
PHILADELPHIA, which is one of the most interesting of our architectural backgrounds, is about to acquire a distinguished addition to its list of important buildings. Before war conditions arose to deter so many construction projects, Cyrus K. Curtis, publisher, had complete drawings made for a great companion building to his present one, which houses "The Ladies' Home Journal," "The Saturday Evening Post" and "The Country Gentleman," on Independence Square.

This new building, by Arnold W. Brunner, with Frank C. Roberts as designing engineer, is to house the "Philadelphia Public Ledger" and "The Evening Ledger," and is to establish certain standards never before attained by a newspaper building.

In addition to numerous special considerations in its planning and treatment there are several large intentions in its design which are of distinct architectural interest.

The Ledger Building, as the general

perspective drawing shows, will stand in even closer relationship to the historic Independence Hall group than the Curtis Building, which Edgar V. Seeler designed in a frank and unaffected version of the Georgian Colonial style. Red brick, with white marble trim, is especially characteristic of Philadelphia, and this particular phase of our native architecture has for some incomprehensible reason, been very little utilized in large buildings.



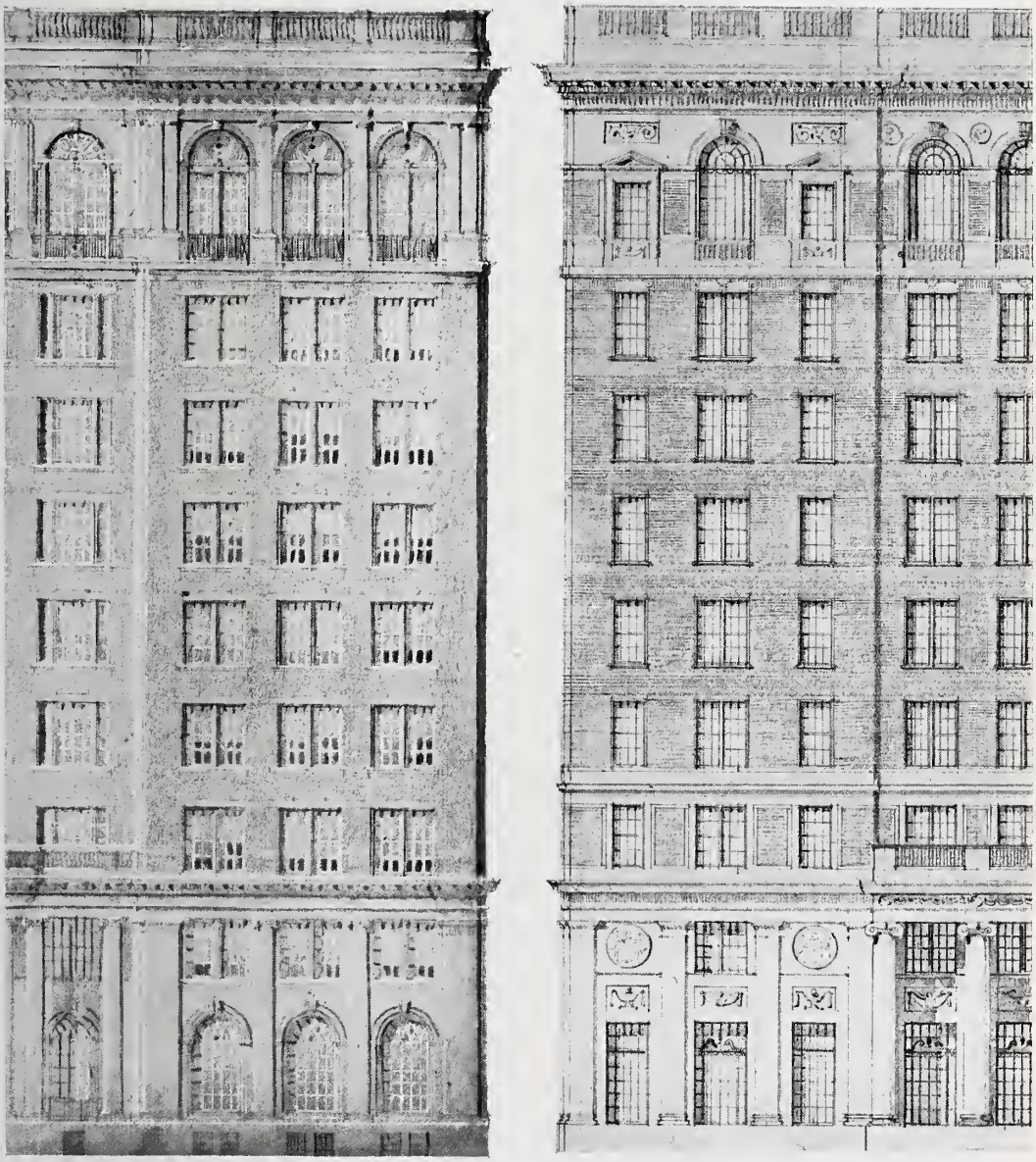
STUDY FOR SIXTH STREET VESTIBULE.

The new Ledger Building, as Mr. Brunner immediately thought of it, must obviously be designed in this Georgian Colonial manner, and must not only dwell in harmony with the old Independence group, but also be a "good neighbor" to the present Curtis Building beside it. One of the most distressing features of urban architecture is the abrupt change in styles from one to the next, and the apparent indifference of each to the heights of its neighbors' string courses and cornices. The problem of designing to conform to adjacent or neighboring buildings is, to be sure, not always easy, but something more like an *entente cordiale* than usually exists might far more often be effected.

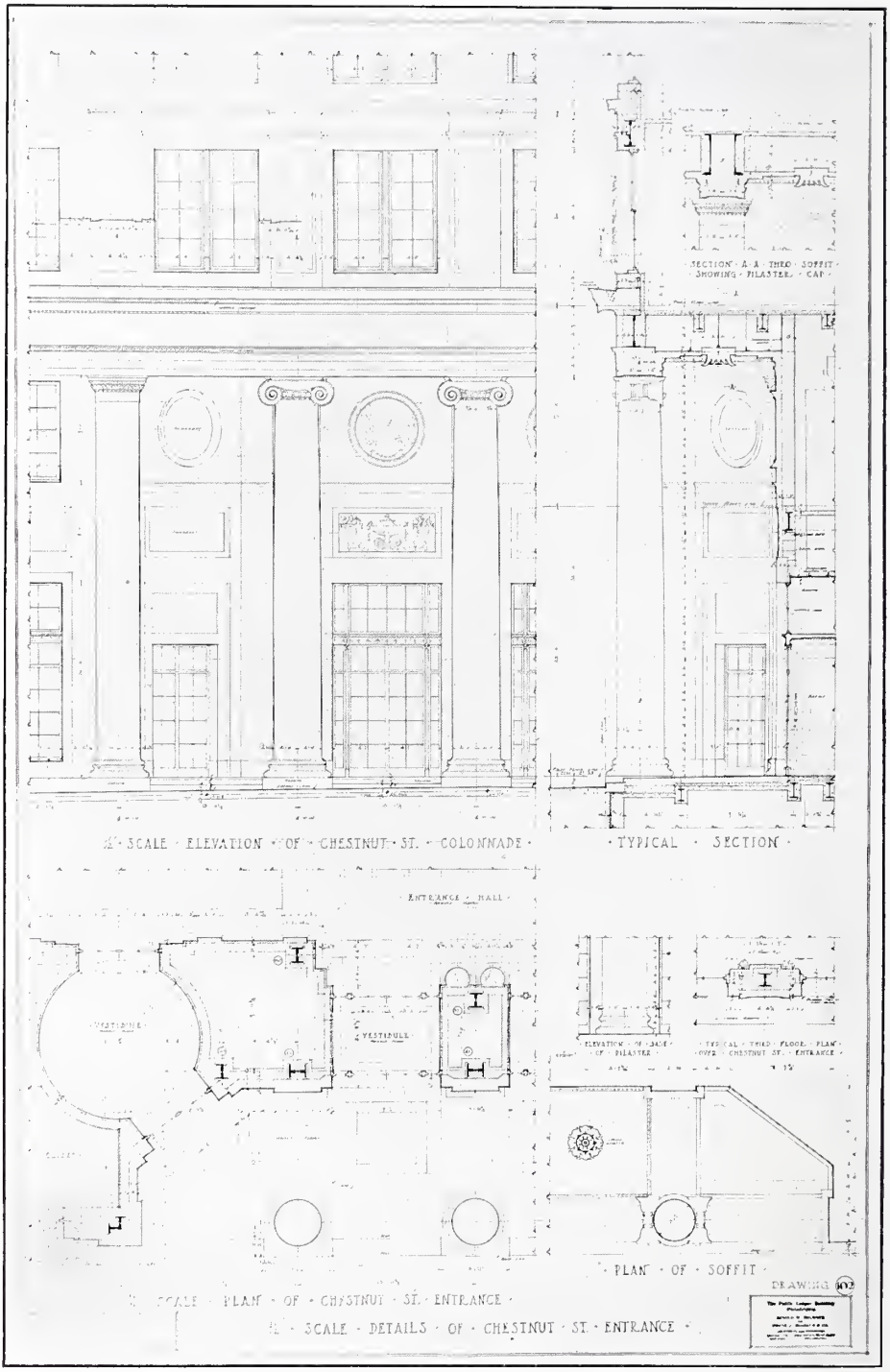
In the case of The Ledger Building it was particularly desirable to design for balance and harmony, for old Independence Square would be an unfortunate place in which to indulge in architectural discord or architectural egotism. With this thought in mind, and with the most studious care, Mr. Brunner adjusted the main horizontal lines of The Ledger Building in relation to the horizontals of the Curtis Building, having also regard to the disposition of color in brick work and trim. It was an exacting problem in balancing similarities and differences without impairing vigor and freshness in design—but the result is obviously successful, and shows a large building which will meet its three most important external requirements. It will do no violence to the old architectural atmosphere of the Independence group, it will be a worthy and courteous neighbor to the Curtis Building and it will be a dignified and distinguished building on its own account.

Much good would result if all architects were to give more studious thought to similar "externals" of their varied problems. There is a far too prevalent tendency to design large and important buildings with no apparent thought of the immediate setting, which has the doubly unfortunate effect of detracting from the appearance of the new building, as well as destroying the appearance of its neighbors. Until there is a more active consciousness of this consideration of "neighboring design," buildings which appear in groups will continue to quarrel with each other and mutually detract from the harmonious architectural composition which they should properly form. An architect who is planning any group of buildings invariably works for harmony and consistency, and there is certainly no architectural reason why he should design otherwise merely because neighboring buildings are already in existence.

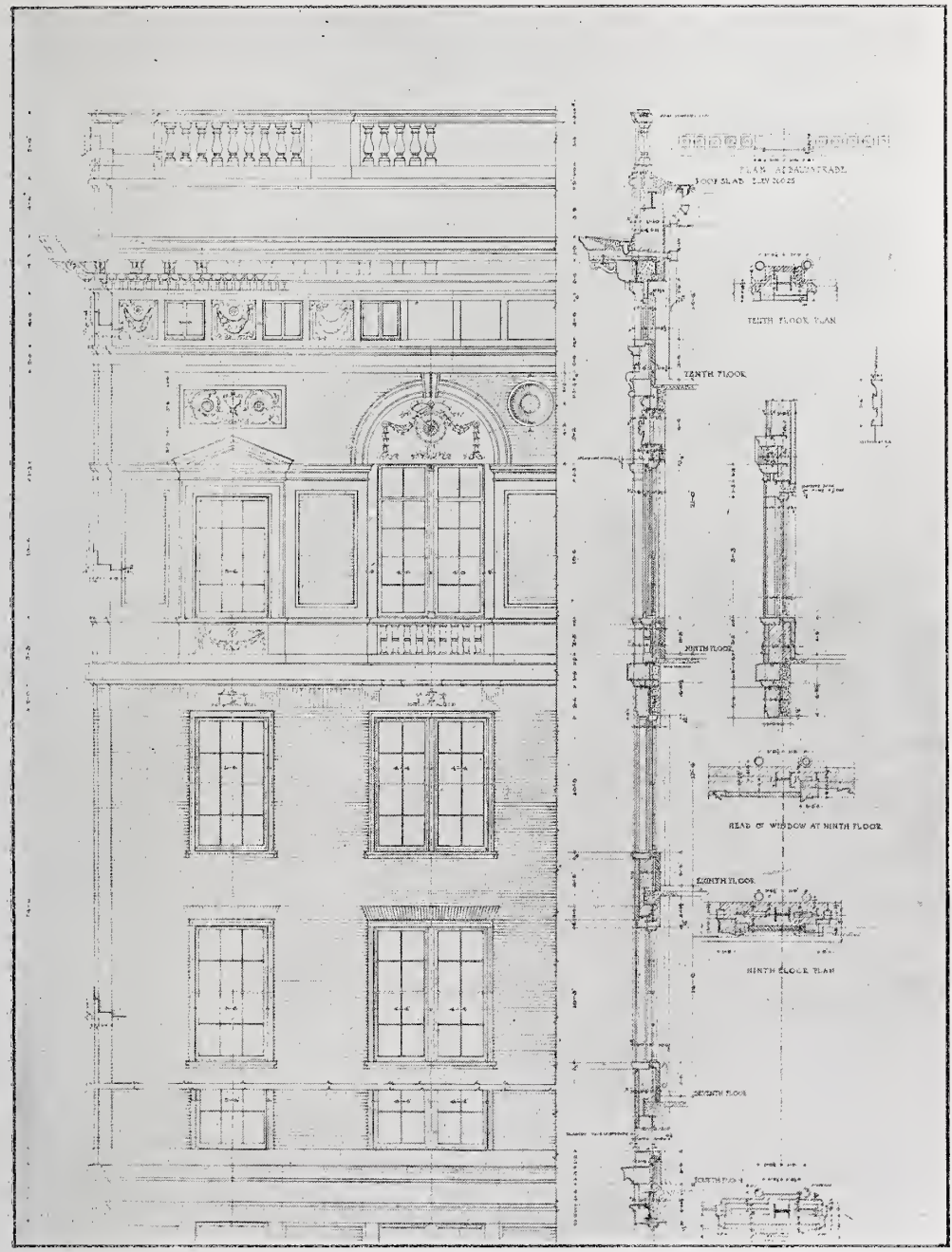
The Ledger Building illustrates at once two very agreeable attributes of the Georgian Colonial style in which it is designed—dignity and refinement of scale. There is exactly enough opportunity for ornamental detail, and exactly enough restraint to set off the ornament to its best advantage. And in color, the contrast between the red brick and the white marble gives a quality of vivacity, even to a large and unbroken façade, which



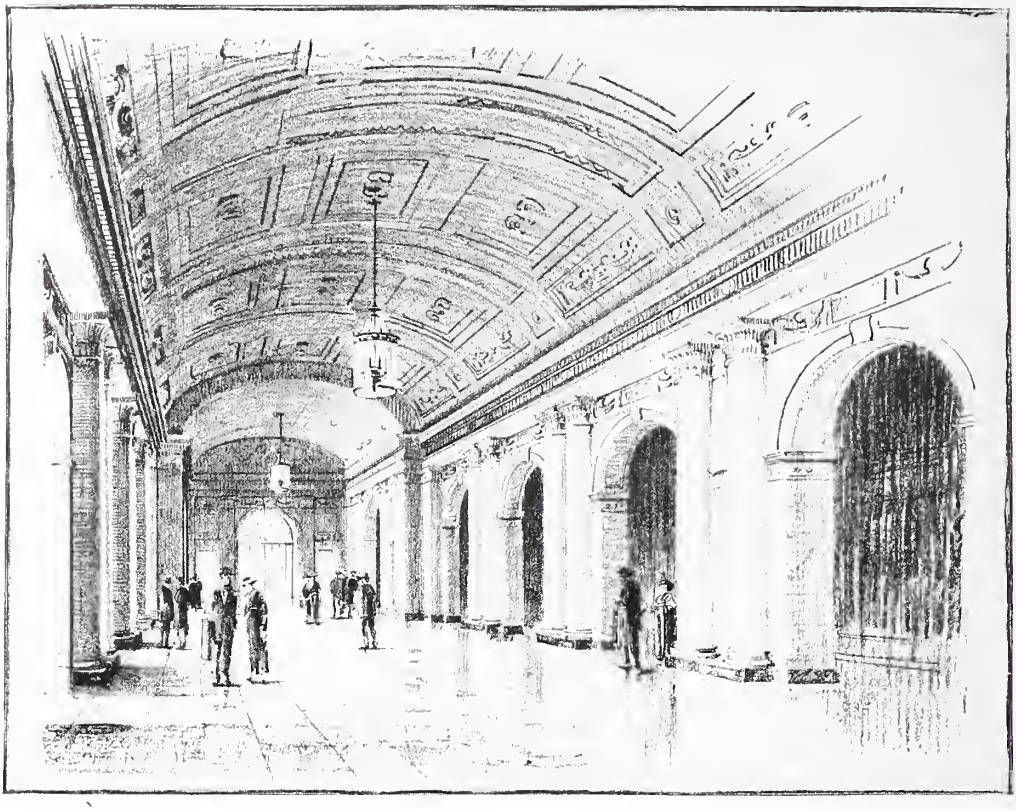
COMPARISON OF STRING COURSES—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



EXTERIOR DETAIL—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



EXTERIOR DETAIL—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA. ARNOLD W. BRUNNER, ARCHITECT.



CORRIDOR—THE PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

could not be so effectively accomplished by any other means.

The interior planning and treatment convey a largeness of vision on the part of both owner and architect. The main entrance, on Chestnut Street, is a great colonnaded loggia, giving access to an architecturally impressive corridor which runs a full third of the length of the building on this side. This corridor has been the subject of considerable study, expressing in its final version the desired effect of dignity without any semblance of pompousness. It succeeds in being distinctly Georgian without being austere, as also it is distinctly rich in effect without being ornate.

At the left end of this great corridor access is had to an extensive and very architecturally treated office space, where visitors will see a large proportion of the clerical staff of the two papers, and where every public contact with its different departments can be expeditiously effected. In such an extensive panorama of activity there is a distinct advertising value, to be reckoned in terms of obvious prestige to the newspaper.

A like measure of advertising value, architecturally expressed, is seen in the design for the press rooms, which balances the clerical department in a corresponding location at the right extremity of the main corridor. Here the presses in operation will be constantly on view from a gallery which is on the same level as the main floor, the actual press-room floor being on a lower level. The presses are also to be seen from the street, through large windows along one of the galleries. It can safely be said that no press-room has ever received such highly architectural treatment, its detail including, among other things, bas-relief



OFFICE SPACE—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

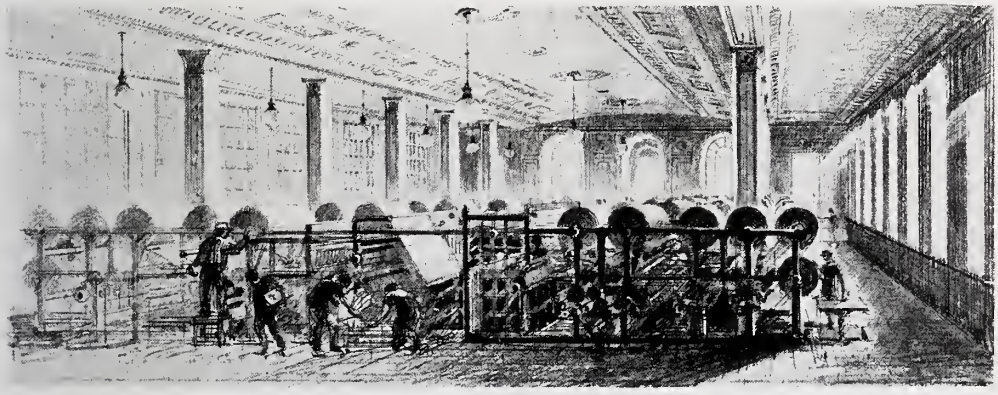
models of the old printers' marks, which have always been a treasured tradition of the craft.

A practical adjunct of the press-room is the mailing and shipping room, behind it, where loading platforms and delivery courts expedite the sending forth of the printed word at morning and evening.

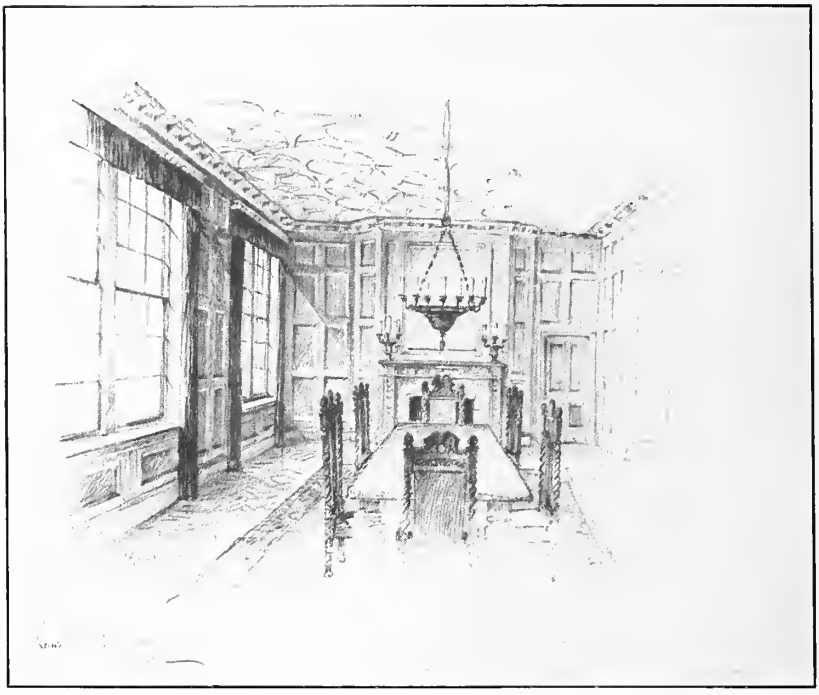
Provision is made in the plan for a quiet and stately dining-room, and for a conference room and offices commensurate in dignity with Philadelphia's greatest newspaper. And in view of such contingencies as great pressure of editorial work, inclement weather, and transportation strikes, several complete living-suites are included for the comfort and convenience of the editors.

On the ninth floor thought has been taken for the newsboys, who will have a swimming pool, gymnasium, class-rooms and a library, as well as a large club room and a dining-room and grill.

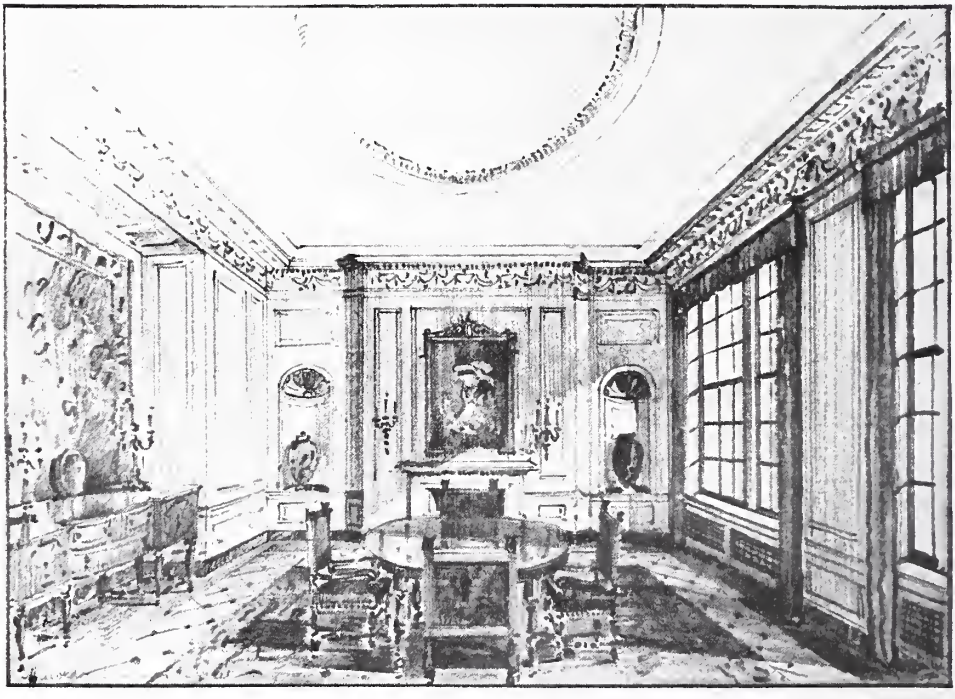
The new Ledger Building, in every respect, will represent a piece of highly



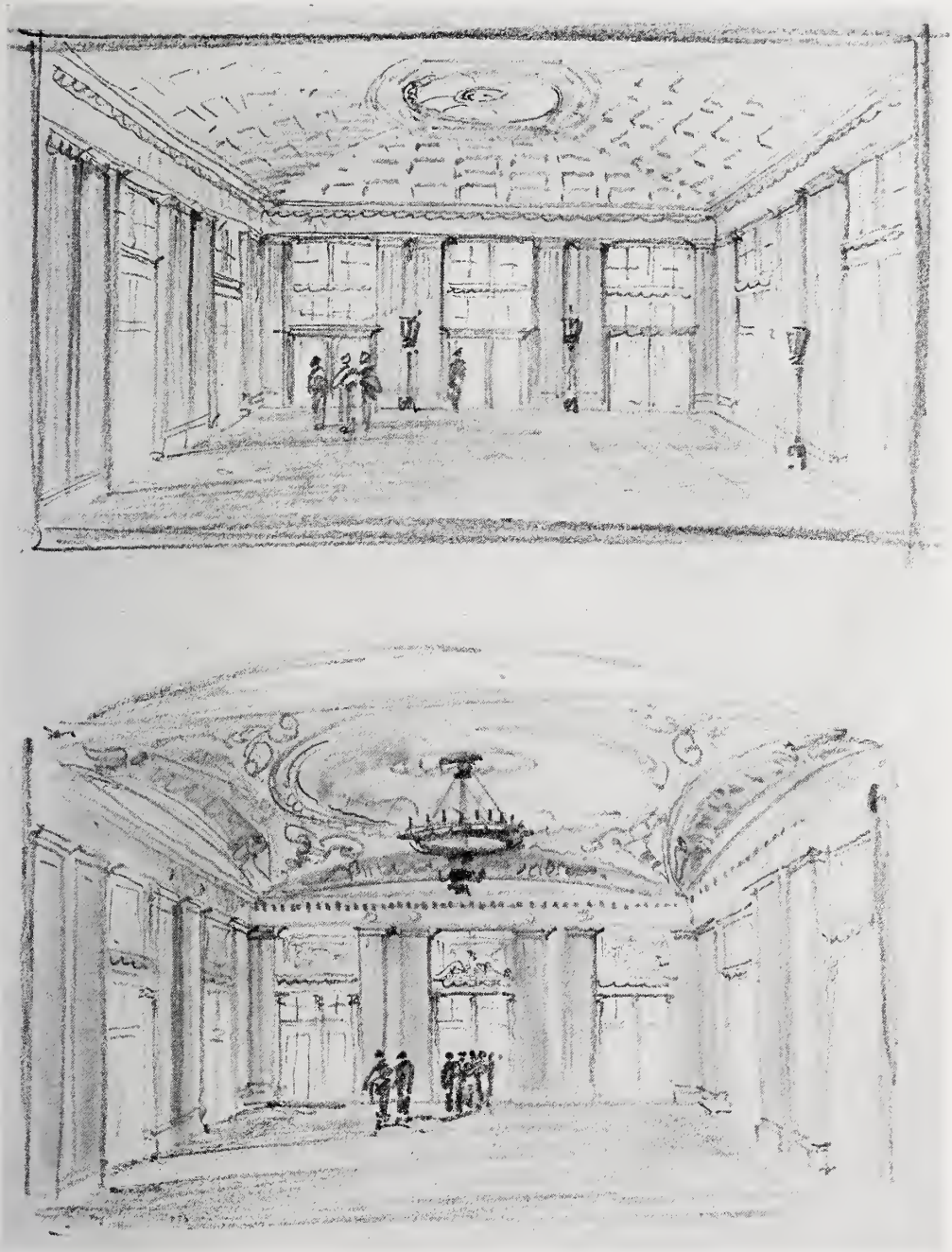
PRESS ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



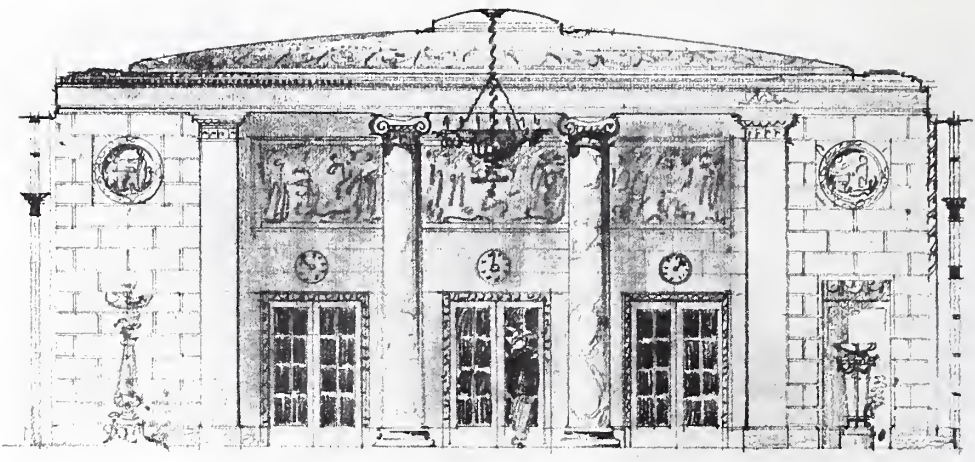
DIRECTORS' ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



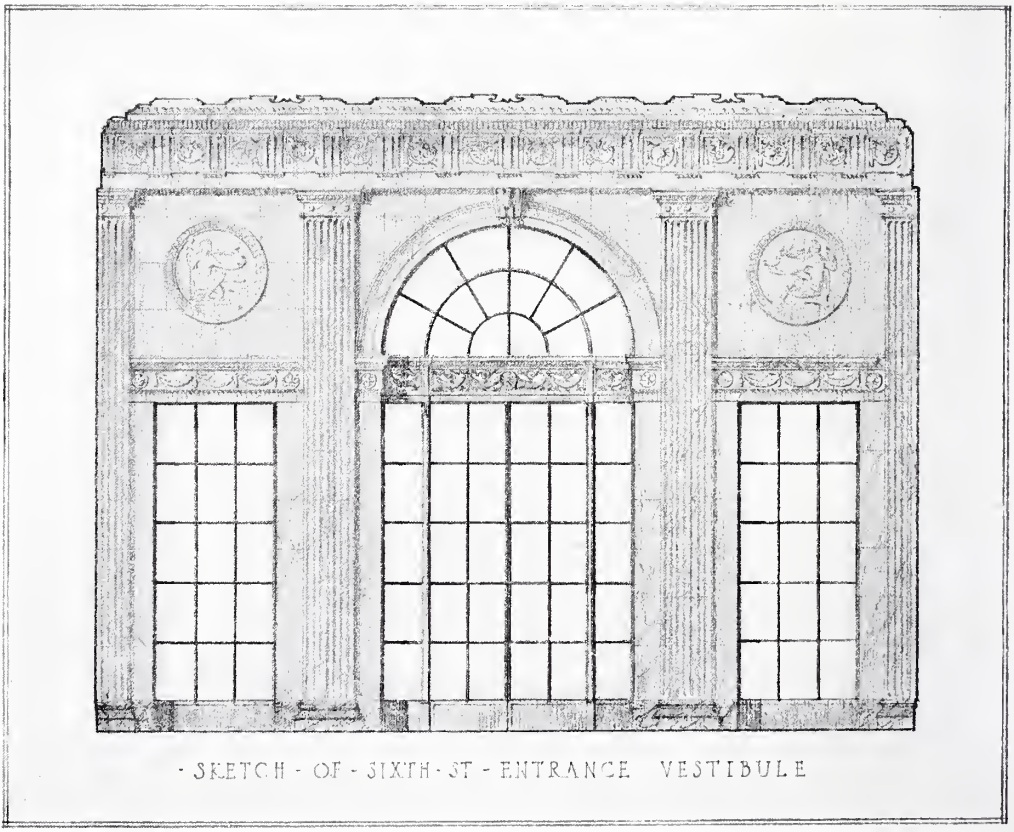
DIRECTORS' DINING ROOM—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



STUDIES FOR VESTIBULE ON SIXTH STREET—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



STUDY FOR VESTIBULE ON SIXTH STREET—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.



SKETCH STUDY FOR THE MAIN CORRIDOR—PHILADELPHIA LEDGER BUILDING, PHILADELPHIA, PA.
Arnold W. Brunner, Architect.

specialized architectural design, combining in its entirety the expression not only of a wide variety of practical considerations, but also of architectural good taste in an environment which imposes many inevitable architectural responsibilities.



FIG. 89. GENERAL VIEW OF COURTYARD.

"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. PRIDMORE, ARCHITECT.

TENDENCIES IN APARTMENT HOUSE DESIGN

PART VIII, *Open Courtyard Types*

By FRANK CHOUTEAU BROWN

THE "Open Courtyard" type of apartment group, in some one of its many possible variants, is of peculiar interest to those concerned with the future development of apartment house structures in this country. Its proven flexibility of arrangement, its varied adaptability to differently proportioned lots of land, its economic advantages for the improvement of larger sized land tracts, urban or suburban, are all amply demonstrated by the examples that have been chosen—from a most extensive variety of available material—for illustration in these articles.

It remains to show one or two examples of the sort of plan best adapted to the nearly square lot, as well as to illustrate one or two more plans of especially individual schemes—and then to demonstrate what happens when this same idea is applied to the development of pieces of real estate of irregular shape and outline. The group first shown might be termed "Complex" plans—because of their more involved outlines—involved because of the fact that the main courtyard is supplemented by other or "secondary" courts, with the building broken in, or out, or around, these courts in order to obtain the most light, air or outlook for the occupants. And this group can perhaps best be taken up in direct contrast to the simplest examples of the "open court" apartment plans that we have yet been able to show.

First among these would probably be the Chicago building, containing two large apartments to the floor. (Figs. 89, 90, 91 and 92.)

This very successful development is shown in plan in Fig 90. It has been built on a plot of land where the portion covered by the structure measures about one hundred and thirty feet front by a hundred feet deep, the wings being about forty-five feet wide and the court opening, at the point directly between the principal entrances, a little over thirty feet in width. The entire area of the building is given over to two apartments to the floor, each apartment consisting of eleven rooms, beside baths, "*Orangerie*," etc.

Of course, with an expensive development of this type, it is to be expected that the rooms are all of ample, not to say spacious, dimensions, which indeed is the case. An unusual and interesting room will also be found making its appearance upon this plan. It is termed the "family room," and is situated at the most remote and innermost point of the plan, in a location farthest removed from the suite of principal living rooms that open out from each other at the front of the building. With its direct cross draught and retired yet unmolested street outlook, it should at all times prove to be a comfortable and pleasant center for the family life of the occupants.

It should be noted, however, that this remote yet commanding position could only be obtained at the sacrifice of a common service stair case for the apartments, which have consequently rear and front stairs, separated and used only by the apartments of each wing in the tier either above or below. This plan may also be considered as fairly typical of the "de luxe" type of apartment, as we most generally find it developed to meet the conditions and demands of a western American city or an important suburban community.

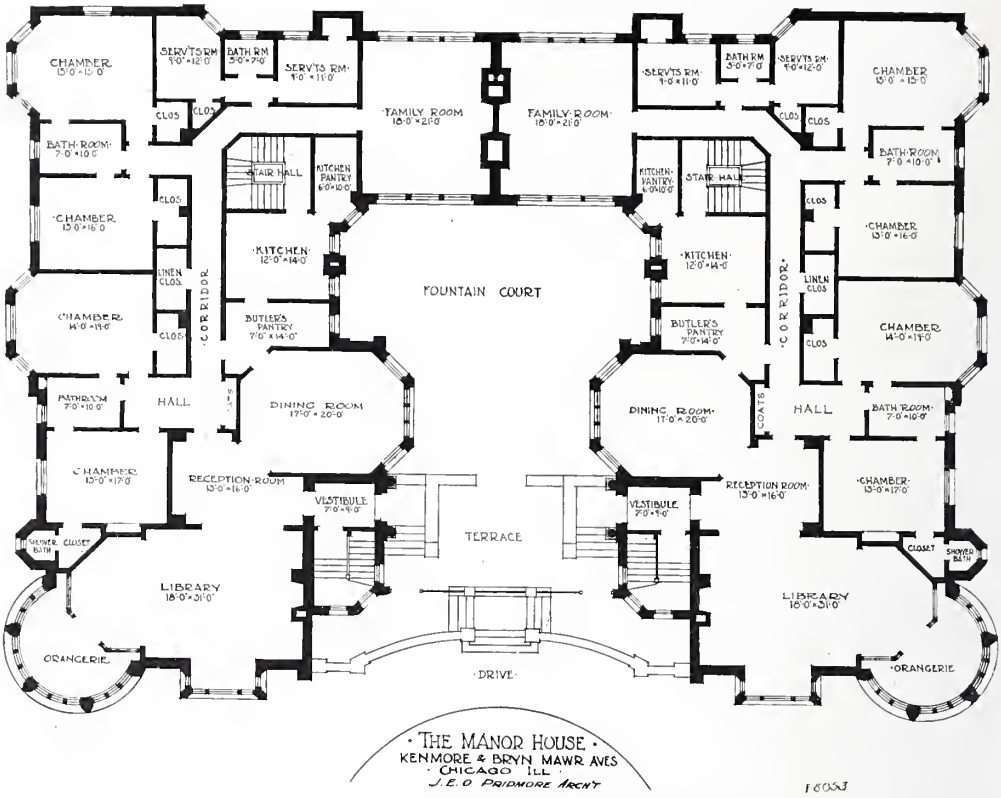


FIG. 90. PRINCIPAL FLOOR PLAN—"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. Pridmore, Architect.

Still simpler in its courtyard outline is the plan of the apartment house on lower Chestnut street in Boston, illustrated in Fig. 93. In its general contour and proportions, this plan is about the best average type of the "open court" idea that has been found. It has the smaller courts —better called "light wells"—required for the special lighting or airing of certain of the service portions of the suites on the several floors—and one or two of these spaces have been utilized, also in part, either for the service staircases, or for the balconies connecting with rear staircases, opening to the several apartments.

Although simple in its main outline, this structure can otherwise hardly come within that classification. When we come more closely to examine the details of its arrangement, it will be found, indeed, highly individual in several particulars. It should first be explained, however, that the designer had presented to him an unusually complicated problem. The lot to be developed had first been laid out to contain a group of ten separate city houses, built facing upon a small courtyard, and the construction of this group had progressed to a point where the piles had all been driven and the foundations were all in, the walls having been carried to a point between the first and the second floors. The work was there arrested by our entrance into the war, and it so remained for some time, until, at a considerably later date, the property was sold and construction resumed, with the important difference that the plot was now to be devoted to apartment uses instead of individual houses.

The architect had accordingly to arrange his plan in such a way as to make use of all the important walls, chimneys, etc.,



FIG. 91. INTERIOR OF COURTYARD.

"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. PRIDMORE, ARCHITECT.



FIG. 92. DETAIL OF ONE OF PRINCIPAL ENTRANCES.
"THE MANOR HOUSE," CHICAGO, ILL.
J. E. O. PRIDMORE, ARCHITECT.

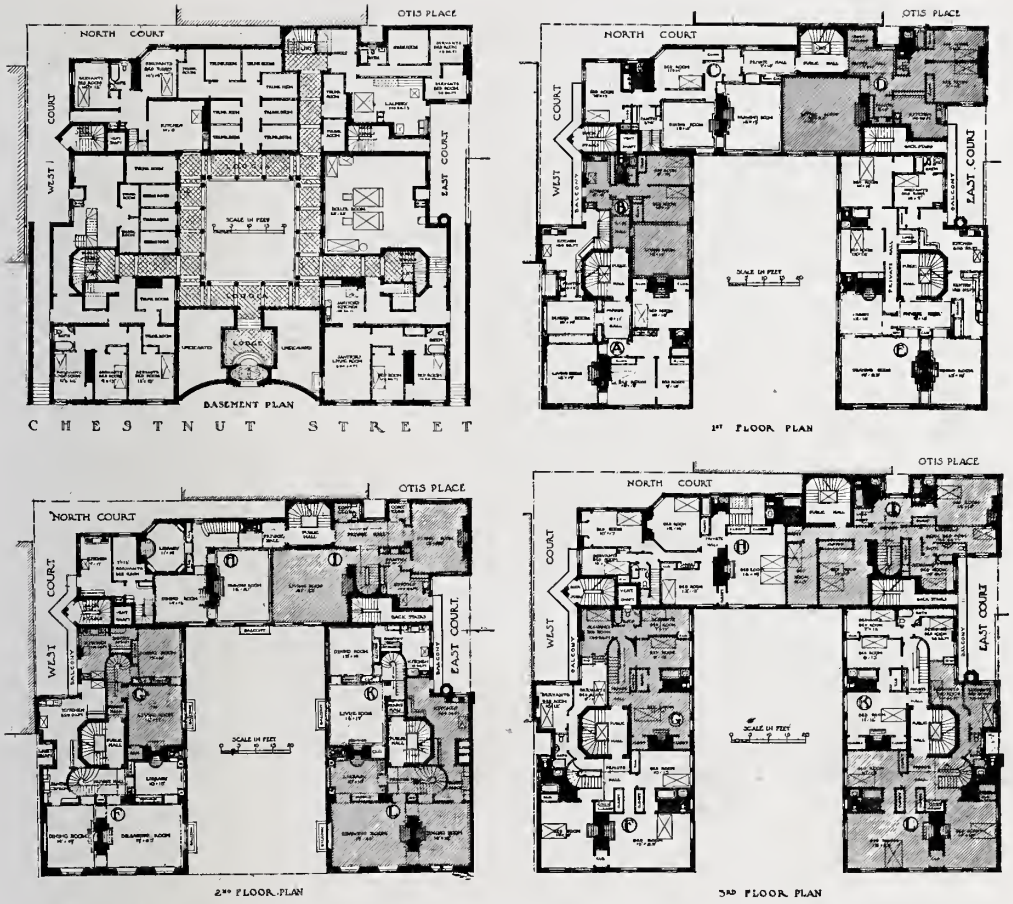


FIG. 93. FLOOR PLANS—APARTMENT HOUSE AT 101 CHESTNUT STREET, BOSTON, MASS.
Richard Arnold Fisher, Architect

in their original location. This in itself would have been something of a problem, but he had further to accommodate his plan to the very different and changed requirements of the building laws, as they applied to apartment—or, as it is technically termed, "tenement house"—purposes. This preliminary explanation is made in justice to the designer, as he might otherwise perhaps justly be criticized for what may appear needlessly involved or complicated elements in the floor plan arrangement.

Once thus fully understanding the architect's problem, however, it should be all the more interesting to examine the floor plans in order to see how fully or well he has found his answer. It should be at once apparent that the typical floor plan contains six apartments to the floor—two in the portion across the rear of the court, and two in each of the side wings. Certain exceptions to this statement are at once to be made. The right hand wing on the first floor is given over to one apartment—and the apartment lettered "C" upon this same floor is also found to be a "Duplex," with the other portion of the apartment, housing the service, extending into the basement. The rest of the first floor will be found to contain two small apartments of four rooms each, "B" and "D"; an apartment of six rooms, "A"; besides the large apartment already spoken of, at "E", of seven rooms; and the "Duplex" apartment, at "C," also with seven rooms.

This floor plan will further indicate

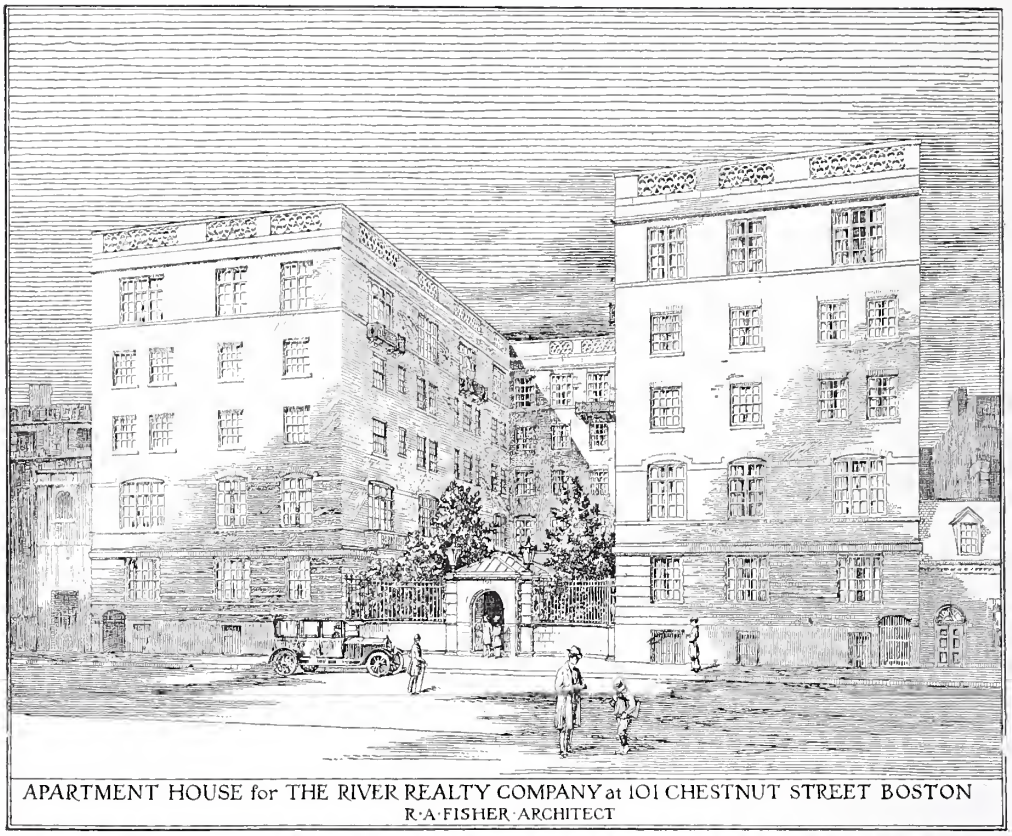


FIG. 94. PERSPECTIVE OF APARTMENT HOUSE AT 101 CHESTNUT STREET, BOSTON, MASS.
Richard Arnold Fisher, Architect

how the two back staircases are each made to serve three apartments to the floor, by means of connecting balconies which are also used to conform with the building requirements for "fire escapes." Three principal staircases are provided, each serving two apartments to the floor, at central locations, built around elevator wells. The practical elimination of long corridors is also to be noted—practically the only exception to this statement occurring in the apartment lettered "C," upon the first floor. Elsewhere, of course, the adoption of the "Duplex" type has gone far to make the avoidance of this wasteful private corridor possible.

Above the first floor we find that the "Duplex" type has been adopted and consistently maintained throughout the rest of the building's height. The apartments on the second floor are continued upon the floor above, where their sleeping rooms are located—and a similar statement might be applied to the two stories above —with the single (and important) exception that we there find the living floor placed at the *top* of the building, and the sleeping portions of these same apartments upon the floor underneath, or the fourth floor. This rather unusual arrangement is in this case amply justified by the far better views over the adjoining Charles River Basin thus obtained for the occupants, and full advantage of this arrangement has been taken by the architect in making the fenestration of the façade more varied and interesting, as appears in Fig. 94. The second and third floor plans are duplicates of the fifth and fourth floors, respectively.

The peculiar distinction of this build-

ing's courtyard treatment lies, however, in the fact that the entrance to the structure is not made directly from the street, nor even to the first floor,—but that, to enter the building, one goes down a flight of steps into a small reception "Lodge," from which there is telephone connection with all the suites. Continuing, one descends a further flight of steps, and enters a low "Loggia" or "Cloister" which extends around the four sides of the court upon what is actually the Basement level, and from this Loggia the different staircases or elevators are reached. The Basement story also contains a small Janitor's suite, on the right, with some servants' rooms on the left; three others being contained on another portion of this plan, together with a general Laundry for the use of the tenants of the smaller apartments. Easily accessible store or trunk rooms for each apartment are also placed upon this level. The service entrances extend from the street to the courts on the East and West sides, from which point the service staircases, and the dumb waiters reaching the different stories, are all easily accessible. The "unexcavated" space on each side of the entrance "Lodge" remains filled to above the street level, and carries, behind its retaining wall, a growth of shrubbery which helps to make the courtyard itself seem remote, quiet and secluded from the street without.

The space covered by this courtyard and cloister is forty feet wide by forty-three feet deep on the basement level, and on the upper stories the depth of the court is 68 feet. The total width of the property is one hundred and twenty-five feet and its depth is one hundred and seven feet. Attention should be called to the large and spacious proportions of the principal living and sleeping rooms, and it should also be noted that these rooms are always well located on the plan, even though the other complications of the problem have sometimes made exceedingly irregular outlines necessary for some of the kitchens, pantries, baths or servants' rooms, in order to obtain for them the benefit of the direct outdoor light or ventilation required by convenience and by law.

Another unusual courtyard plan is shown in Fig. 95. The buildings on each side of this courtyard contain two apartments each to the floor, with a common mainstairs and elevator, and separate rear staircases. These apartments all consist of nine rooms, including a spacious porch, across which one actually has to pass to enter each apartment. The porch is, however, so arranged that it can be completely enclosed and utilized as a room in winter time. The section at the rear end of the court contains two of what are called "duplex" apartments, but they are substantially the same as two single city houses, since they extend the full height of the building at this point, their first floor being on the same level as the second story of the side sections.

With the exception of the small amount of wall used in common by the side and rear groups of apartments, the different elements grouped to form the courtyard plan are, in this case, especially easy to distinguish. The two side sections are clearly to be seen as wide and shallow units, each with its own separate "courtyard," and they are especially successful in securing for the apartments the maximum amount of exposure and opportunities for cross draft. These opportunities, it should also be noted, are not in any way sacrificed by the grouping of these units around the larger courtyard that results in the plot plan here shown. The narrow connecting "neck" that relates the apartments to their front staircases is an unusual feature. The arrangement of this space so that it can be used (when the tenants so desire), as an open room or porch, makes each of the apartments practically as open on all sides as is the case with the ordinary suburban house, which has nearly always adjacent neighbors to partially interfere with exposure to sun, air or view.

The main courtyard here takes the form of a Maltese cross, because of the minor courts indented from three sides, and the opening left for the entrance from the street upon the front. In addition, there exist two "secondary"

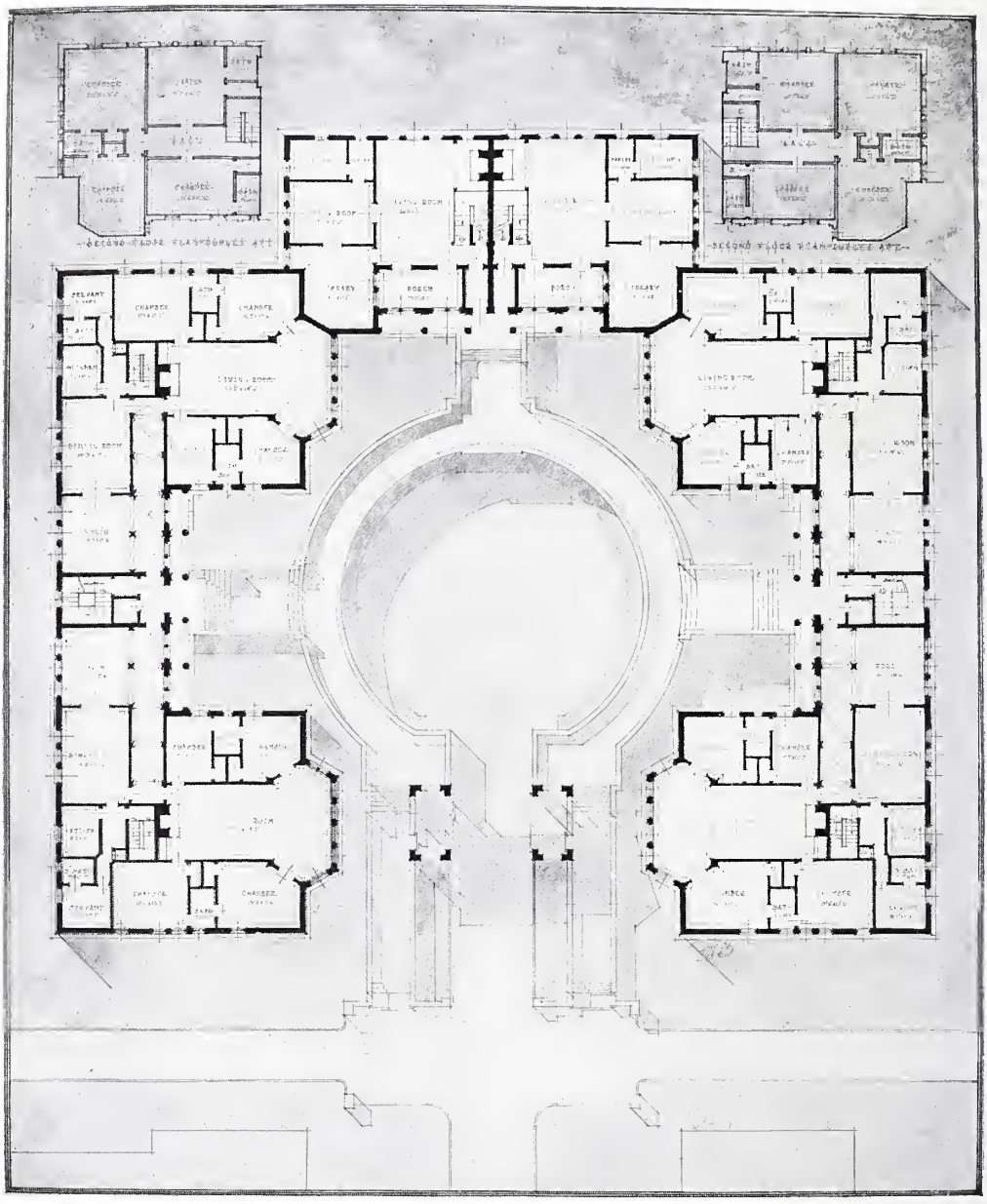


FIG. 95. PRINCIPAL FLOOR PLAN — "CAMPAGNIA" APARTMENTS, BALTIMORE, MD. CLYDE N. FRIZ, ARCHITECT.



FIG. 96. ELEVATION OF "CAMPAGNIA" APARTMENTS, BALTIMORE, MD.
Clyde N. Friz, Architect

courts on the rear outer angles of the plot (in Fig. 95 these courts are occupied with the upper floor plan of the "duplex" center rear apartments, and they, therefore, perhaps appear more clearly in the key plan marked "Compound Court" at the upper right-hand corner of Fig. 98).

This building, the "Campagnia," is also further related to two other apartment buildings with which it is grouped, the "Lombardy" (to be illustrated next month) and the "Tuscany," which was shown in December, as Figs. 64, 66 and 67. The relationship between the "Campagnia" (Fig. 95) and the "Tuscany," (Fig. 67) may be clearly seen by comparing these two plans. The outline and arrangement of the latter is similar to the units that comprise the two sides of the main courtyard in the former. It should also be noted how the designer of these apartments always provides his tenants with an important and necessary adjustment for the accommodations of their automobiles. In the building illustrated this month the garage is a separate structure of harmonious design, connected with the main building by a covered passage, as is shown in Fig. 97. In the case of the "Tuscany," published in the December issue, a garage is provided the tenants in the space in front of the building, the main entrance to which is over the roof of the garage. The latter is so well concealed, however, that few would suspect its location. In the illustration on page 492 (Fig. 66), what appears to be merely a decoratively treated retaining wall, is actually one side of the garage, which can be seen upon this side of the building only.

The secondary court, although it has several times already appeared in the plans reproduced in this series, has not yet been specifically discussed. Several plans showing the use of a secondary court are grouped together in Fig. 98. Of these, the one at the upper left-hand corner is a simpler expression of the plan shown in detail this month in Fig. 90. It is also very similar to the plan shown last month as Fig. 85, or, for that matter, to the plan of Fig. 93. The latter has, however, two embryonic secondary courts at the same locations as they appear in the plan at the upper *right* hand corner of the same group (Fig. 98), although the latter is in reality a simpler showing of the outline arrangement of the plan in Fig. 95. The outline shown at the center of the lower row is a further and more extended development of this same idea—and is, as a matter of fact, practically the outline arrangement of Richmond Court, in Brookline, which

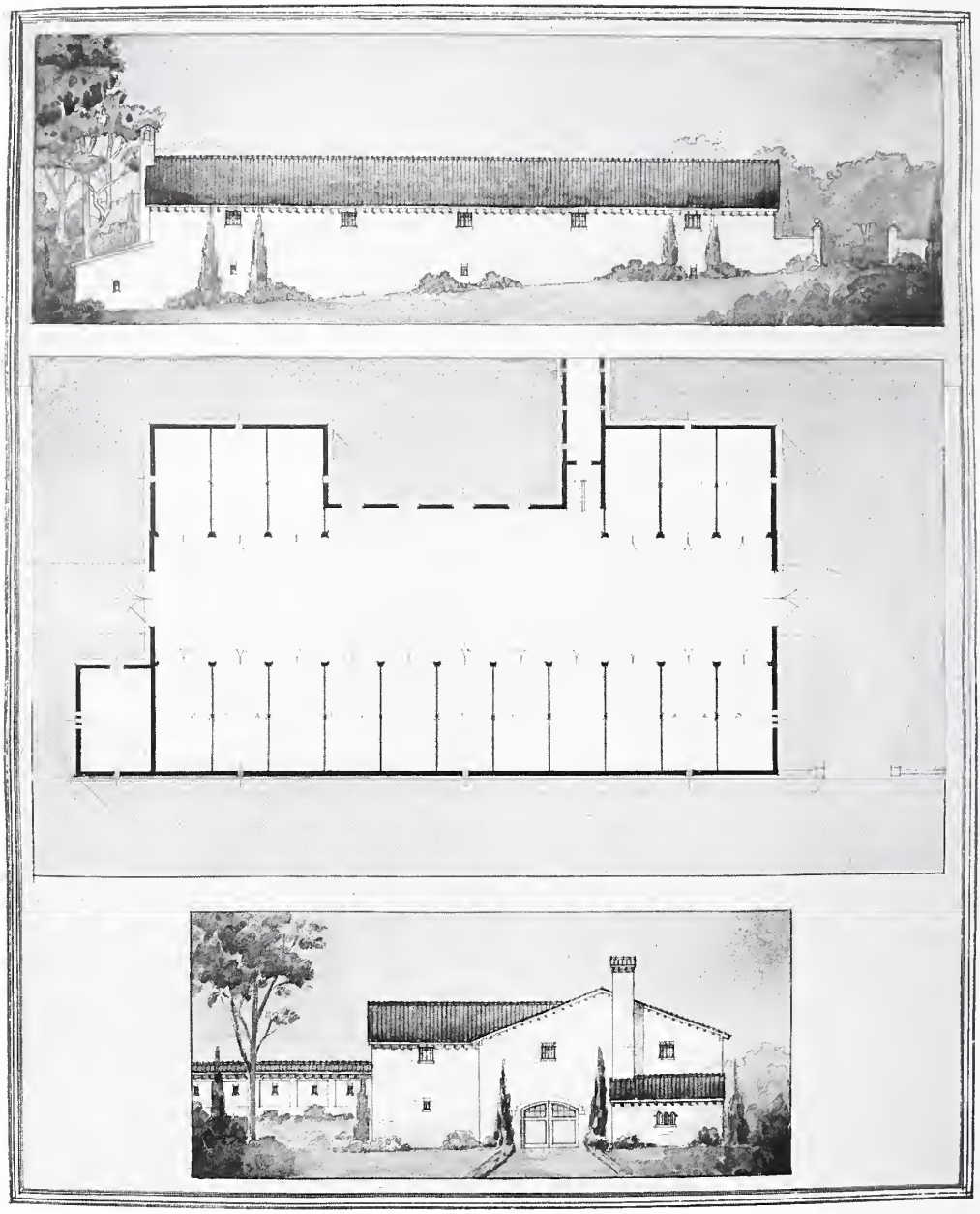


FIG. 97. DRAWINGS FOR "CAMPAGNIA" GARAGE, CONNECTED WITH APARTMENT BUILDING BY COVERED WAY. CLYDE N. FRIZ, ARCHITECT.

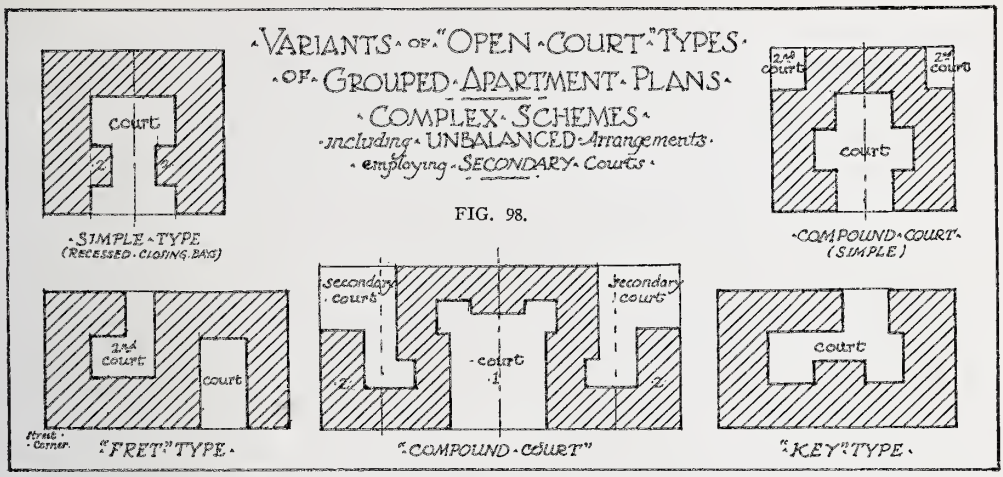


FIG. 98.

was somewhat fully discussed in these articles in the issue for December last.

In that plan, however, the two extreme wings, marked with the figure "2" in this key plan, were separate buildings, similar in architectural style and treatment, with separate entrances from the principal street. This shows, in connection with the other two plans illustrated, something of the possible uses that may be made of "secondary" courts, in such groupings of apartment units as we have been discussing in this series.

In all of these plan outlines, the "secondary court" is considered as meaning a separate and subsidiary space, opening from the rear of the lot, always materially smaller than the main courtyard, which opens from the street. Fig. 95 also shows the use of what might be considered "secondary" or minor courts opening out from or into the main courtyard itself in this plan at the sides of the main court.

Two other types of outline-plans are also given in Fig. 98, in the lower right and left corners. The latter shows a use of two courts, one opening from the front and the other from the rear of the lot—the building taking the form of a "Greek fret" in outline around these two courtyards. This is a type of plan which apparently has not as yet been consciously developed—or at least, to no more of an extent than seems to have been done in the plan (Fig. 99) where it may be studied rather more in detail.

In the plan at the right-hand lower corner, the courtyard is entirely at the rear of the building, the resemblance of which—in outline—to the "key" type, is also clearly evident. This, too, is a plan of which no example expressing its latent possibilities has been found, but it is here included in the group to indicate that it possesses distinct potentialities, especially if the courtyard is placed at the front of the building, as in the other structures of the type that we are now considering. A later article will, as a matter of fact, show a plan of somewhat this type of outline, in some buildings undertaken to provide apartments available for occupancy by a far cheaper class of tenantry. But as it there appears only in its simplest outline essentials, attention has here been drawn to what are believed to be its opportunities for a better paying class of building, particularly when a piece of land of sufficient area to give this idea its full and adequate freedom of expression, is under consideration.

In detail, it appears in this article in the plan shown as Fig. 100, although the courtyard here opens from the inside, and not from the front of the lot. Its arrangement would therefore be materially altered, as now all the service rooms are made to appear on the courtyard faces of the structure, except where immediately opposite the open point at the rear.

In Figs. 99 and 100 we may examine more particularly two examples of still more convoluted plan outlines, arranged around more than one principal court, although in one case this court opens only from the rear of the build-

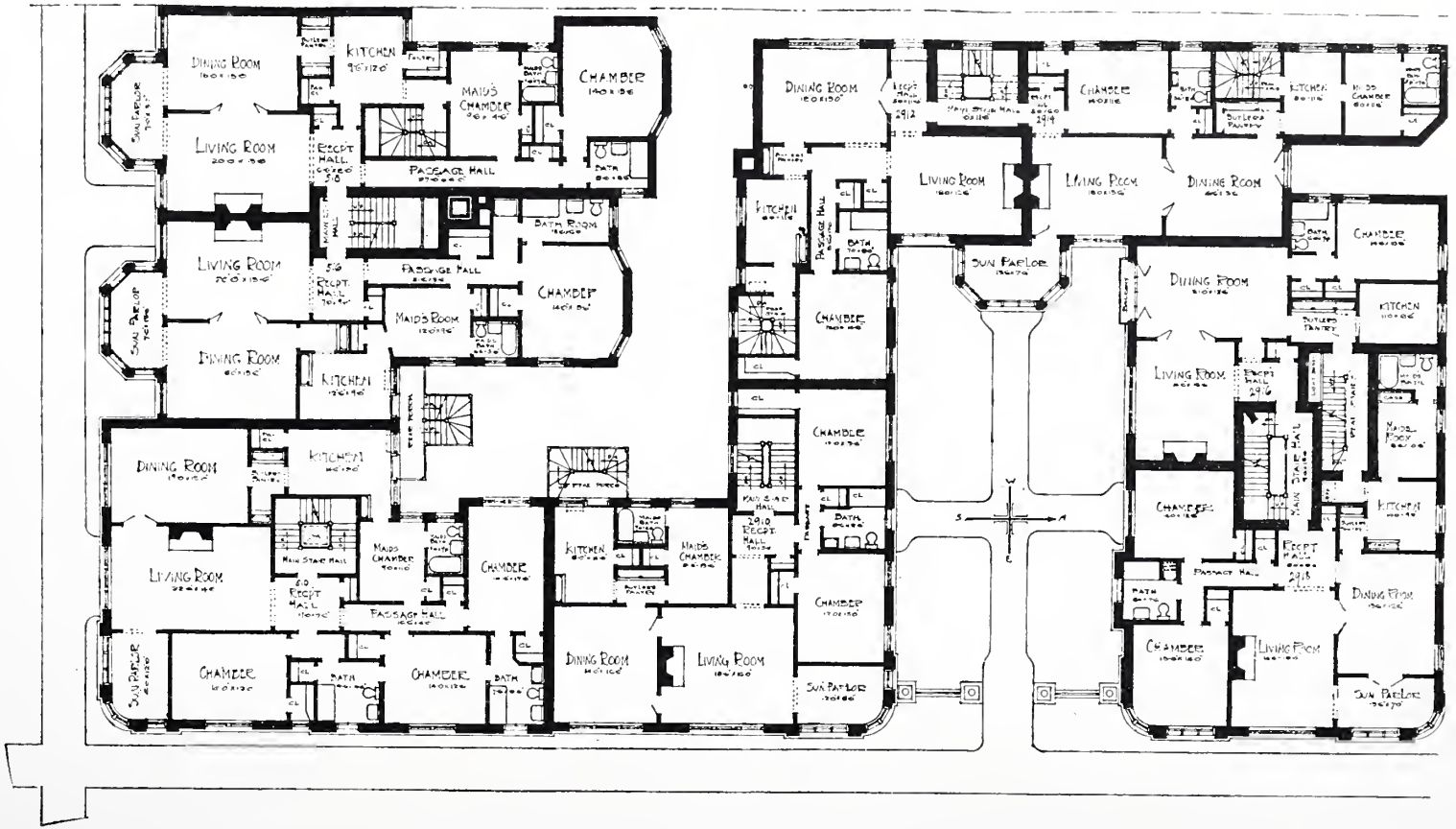


FIG. 99. TYPICAL FLOOR PLAN. THE CHESTERFIELD APARTMENTS, SURF STREET AND PINE GROVE AVENUE, CHICAGO, ILL.

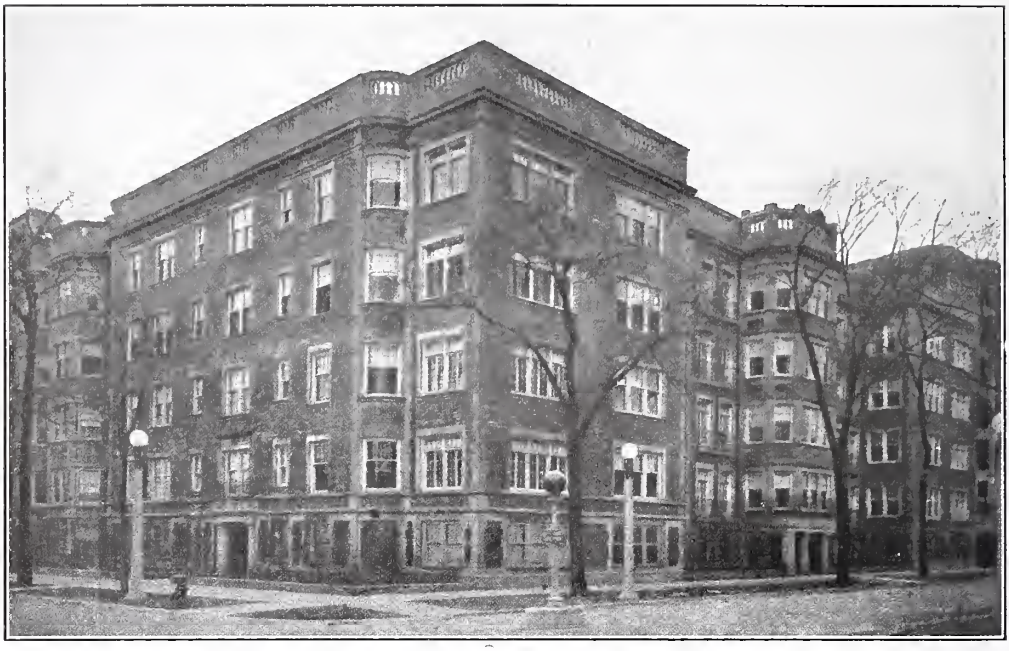
ing. Nevertheless, we have here a suggestion for a type of plan with exceptional possibilities for further development in a crowded city section, where the land values are very high. It is indeed, the precise idea that has been utilized to provide light, air and outlook in the dwelling floors of the Hotel Pennsylvania, in New York City, although it is there given a very special and perfected expression. It is, nevertheless, along exactly these lines that the courtyard plan has been working out its development, when given sufficient and properly proportioned area for the purpose.

The plan in Fig. 99 conforms precisely to the "Fret" in outline. It is composed of a number of separate and distinct units. The court opening from the street, at the right of the plan is surrounded by five apartments. Two of these are contained in the compact structure at the right of the court, with common front and rear staircases, located well on the inside of the plan. Across the rear and left side of this courtyard, the building is narrowed so that all the rooms may obtain the maximum cross draft. The two outside corner apartments, secured on the street corners and the corner of street and court, respectively, are practically separate buildings with one apartment to the floor. The remaining portion, on the side street, is a regular double width apartment plan, similar in its general arrangement to some of those we have considered earlier in this series. With the exception of the corner apartments, it should also be indicated that these apartments are mostly of the four rooms and bath type (having only one family bedroom) already noted in another Chicago example last month. (Fig. 78.)

In Fig. 100 is shown a plan of complex courtyard disposition, where four large apartments are arranged in a manner that is, as a matter of fact, more like some of the New York examples—in so far as the servants sleeping and working rooms have been generally so disposed as to occur on very narrow rear courts or wells, after the older fashion. Where the rear court opens out, however, to the south, the principal bedrooms are again to be found, and the entire building has also a very shallow "set-back" or court upon the principal street front. Its main interest here, however, is in relation to its use of the "key" outline plan, in another and quite different fashion from the previous example, and it is therefore included in this place for what suggestive value and interest it may possess. These suites are very large, in comparison with most of the apartments that have been illustrated recently, two being of nine rooms, one of eight and one of ten rooms—outside of entrance halls (here called "reception rooms"), baths and sun parlors. The long, narrow and dark corridor again reappears in these apartments.

There remain some words to be said about "Duplex" apartments, and as the plans shown in this installment as Fig. 93 have still something to give us in that connection, this seems as good an opportunity as any other to complete our consideration of that particular subdivision of this general subject. The matter has already been discussed to some extent in an earlier article. The "Duplex" idea is not to be considered as a particularly new one in apartment design. It is, as a matter of fact, the solution used in some of the very earliest of apartment buildings, both in New York (as at 121 Madison Avenue) and at 330 Dartmouth Street, Boston, as well as in other cities, both here and abroad. Interest in the type has been recently revived from certain experiments in the better class of "de Luxe" New York apartment buildings along Park Avenue, where the very awkward long corridor was found to extend to over-great length, as the number of rooms per apartment grew and multiplied. In certain other instances at least, it appears evident that the device was adopted because of a limited area of lot and the desire to place upon it larger apartments than would otherwise have been possible.

Of such would seem to be the plan that results in Fig. 101, for instance, where an apartment of twelve rooms is



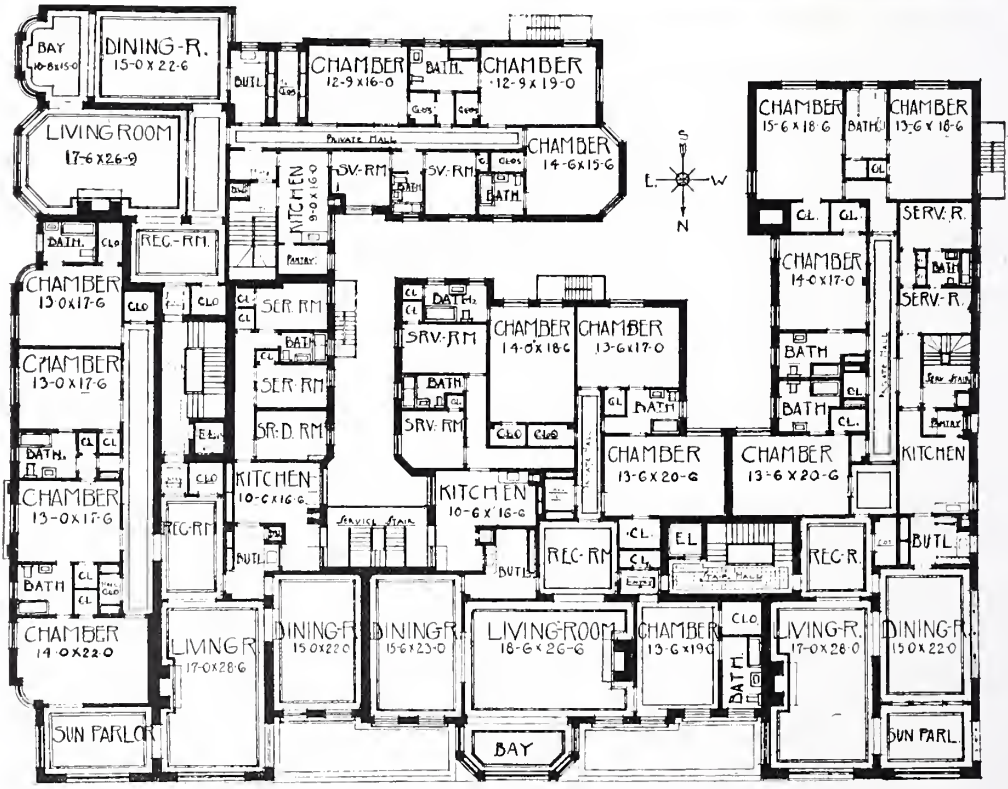


FIG. 100. EXTERIOR AND FLOOR PLAN OF APARTMENTS AT 305 FULLERTON PARKWAY AND 2350 LINCOLN PARK WEST, CHICAGO, ILL. ANDREW SANDEGREN, ARCHITECT.

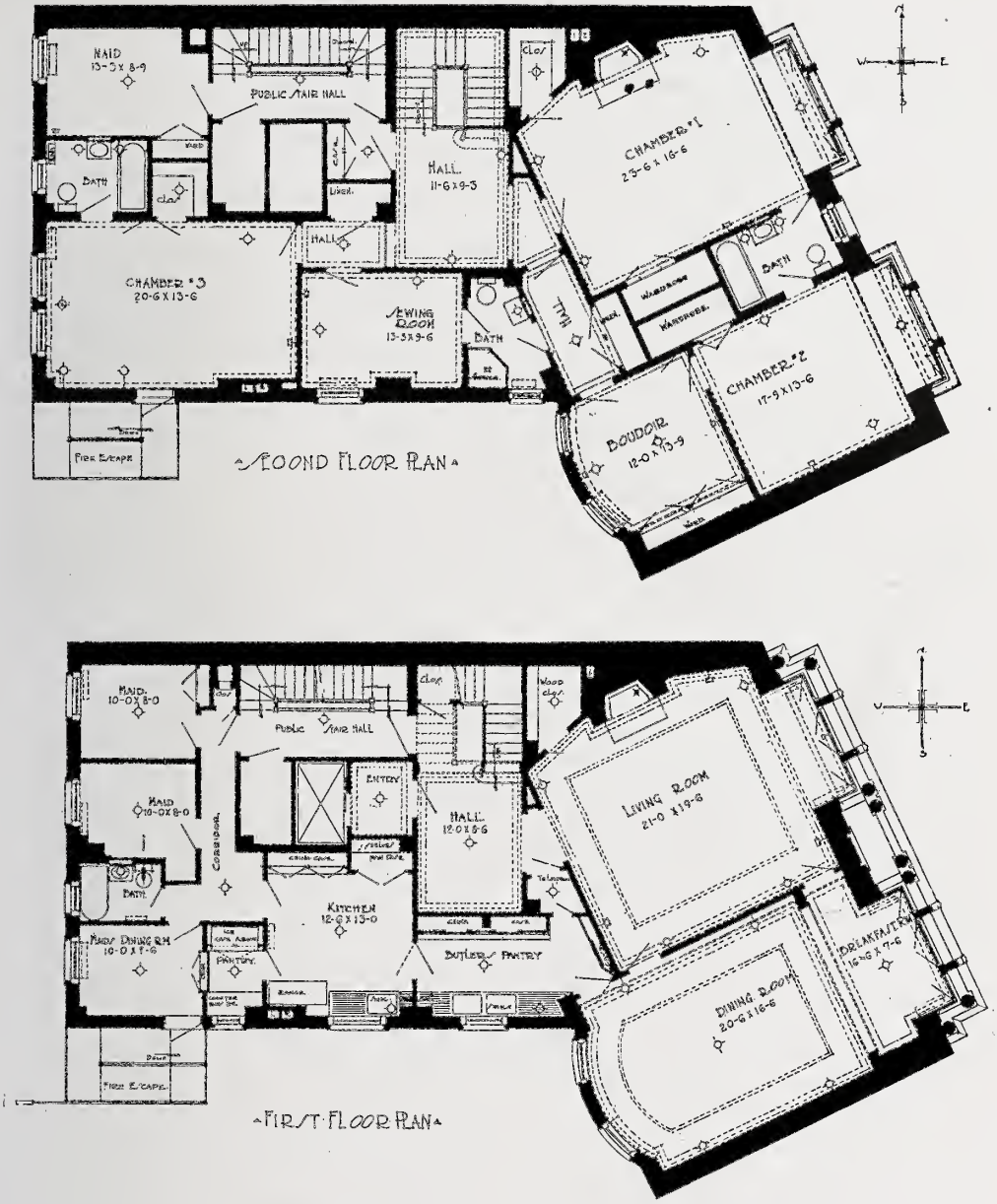


FIG. 101. PLAN OF 942 LAKE SHORE DRIVE, CHICAGO, ILL. WILLIAM ERNEST WALKER, ARCHITECT.

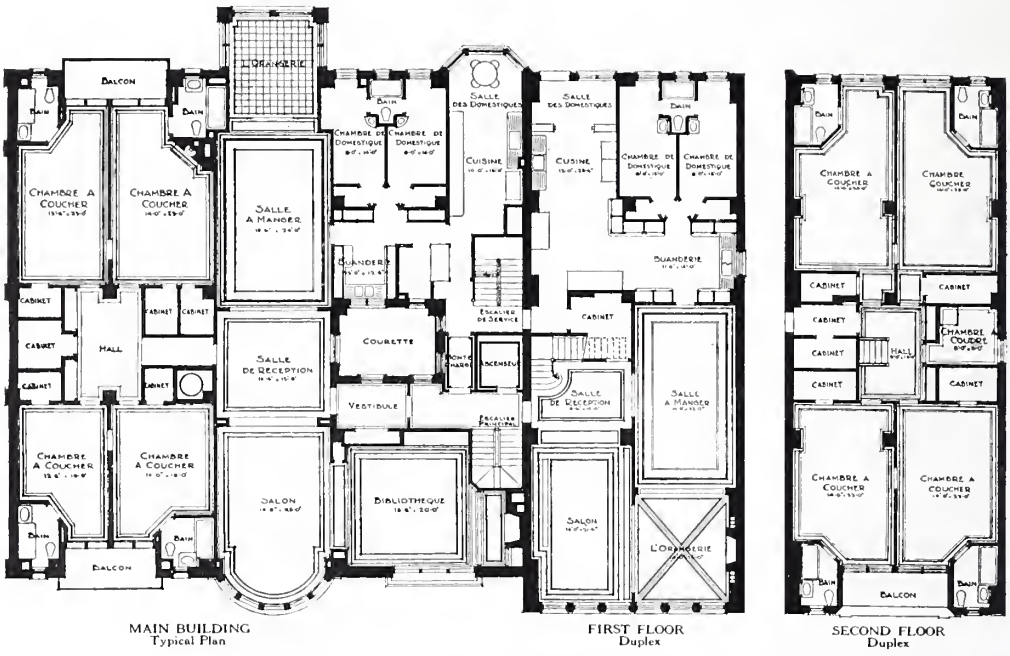


FIG. 102. PLAN OF 199 LAKE SHORE DRIVE, CHICAGO, ILL.
Marshall & Fox, Architects

distributed over two floors of a comparatively small lot. In this case the elevator —stopping only on the living floors—is evidently depended upon as the principal means of approach to the main entrance to the apartments, although a door (placed well out of sight, under the stairs to the sleeping floor) opens from one end of the public staircase hall, while another at the other end connects with the service hall to the maids' rooms and kitchen. In this plan another maid's room, located on the bedroom floor but opening only from this hall, is apparently designed to be available for use either with that or the apartment on the floor next above. A little irregularity in the angle of the street with the party lines of the lot adds interest to this plan, but it is obviously only a slight variation of the arrangement that would equally well apply to a lot of more conventional shape and rectangular outline.

Another Chicago plan, Fig. 102, is also illuminating, in its open contrast of the merits or advantages of the two types of apartments. A little more than the left-hand two-thirds of the lot area is given to an apartment all on one floor, containing ten rooms, besides a *"Salle de Reception"* and an *"Orangerie"* (this appears to be the nomenclature customarily adopted for the "de luxe" apartment—in Chicago) of which the four principal bedrooms are self-contained within a parallelogram isolated from the other principal rooms of the apartment by a definitely established construction wall—an arrangement the advantages of which have already been commended and commented upon in previous articles, although this example is perhaps a better and clearer visualization of the idea than it has been possible previously to show.

The right, and smaller, portion of the plan shows the living rooms of another apartment reached from the same public hall and elevator as the one just mentioned—and still further at the right appears the arrangement of a second floor plan containing the sleeping rooms of this second apartment, arranged precisely as in the other sleeping cubicle of the all-on-one floor apartment. The con-

trast is vivid and interestingly suggestive.

This much would seem to sufficiently indicate the main possibilities and uses of the "duplex" apartment (outside, perhaps, of the "studio type" that remains for later consideration) and we can return for a few minutes to consider one or two of the particular refinements that have been developed in this type by Mr. Fisher as he has chosen to adapt it to the purposes of his problem, as shown in Fig. 93. Turning to the second floor plan we find that, with one exception (apartment "H") the servants sleeping rooms are either placed over the kitchen portion, upon the upper or sleeping floor of the apartment, or it is evidently the intention that the servants be taken care of in the basement, in some of the several rooms there provided for that purpose. The servants' rooms do *not* open from the kitchen or the service hall on the main floor, as in the other plans considered, but they may reach the kitchens of all the suites through the staircases inside, or in some cases it would be possible to do so by means of the connecting balcony and main service stairs. By this arrangement all important frontages, on both floors, are reserved for the more important rooms. Only one suite possesses its own flight of rear stairs.

This same "Duplex" plan also suggests that the apartment—of this, or any other, sort—may be far more irregular in its individual arrangement or outline, and yet conform to a generally simple and conventional external plan-shape. With the "Duplex" plan, particularly, it is a fact that the plan is capable of containing far more irregularity in the "overlay" or "underlay" of the floor areas than any example of an actual structure has been found to illustrate. At least one such unrealized plan is known, however, the basis of its arrangement being predicated upon the alternation of the floors on which are located the principal rooms of the apartments—in itself a simple enough idea that has as yet not been often utilized—in order to obtain greater freedom in the disposition or arrangement of the various apartment plans. It can, of course, be best made available only when the building is of concrete or tile floor construction—as any structure given to the housing of so many families should unquestionably be—because such construction makes it easy to effect minor variations in the lighter partitions, even when rigidly conforming to all the structural bearing partition lines—as Mr. Fisher has shown to be so feasible in the plans here illustrated.



PERSPECTIVE—THE PROVIDENCE MATERNITY HOSPITAL, PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.

The PROVIDENCE MATERNITY HOSPITAL

Stevens & Lee, Architects

IN every great hospital in Europe, the maternity department occupies a large and prominent portion of the institution, while there are comparatively few large hospitals which are devoted exclusively to maternity work. In the United States, however, nearly every large city has its lying-in or maternity hospital.

As child-bearing is a natural function and a part of the home life, the environment of the patient while in the hospital should be comparable with that of the better home life.

The entrance to the hospital should be indicative of hospitality and should present a homelike welcome to the would-be guest. The rooms and wards should be cheerful, and color and decoration play an important part in the convalescence of any patient.

The pre-natal clinic, with its laboratory and X-ray adjuncts, is necessary. The surgical or delivery section should have all the care in planning and construction that is given to the hospital operating section, and there should be an isolation department for the occasional cases of puerperal septicaemia or other infection.

While sunlight and air are desirable, with opportunity for having the mother in the open air for any length of time desired, the call for airing balconies is not so great as in the general hospital, owing to the frequent nursing periods; but the service of food, the care of utensils, provision for linen, etc., would be much the same as in other hospitals.

For the bathing of the infant, it is desirable to have special facilities, such as a warmed "shock" or bathing slab where running water at the desired temperature can be supplied, as well as the resuscitation bath.

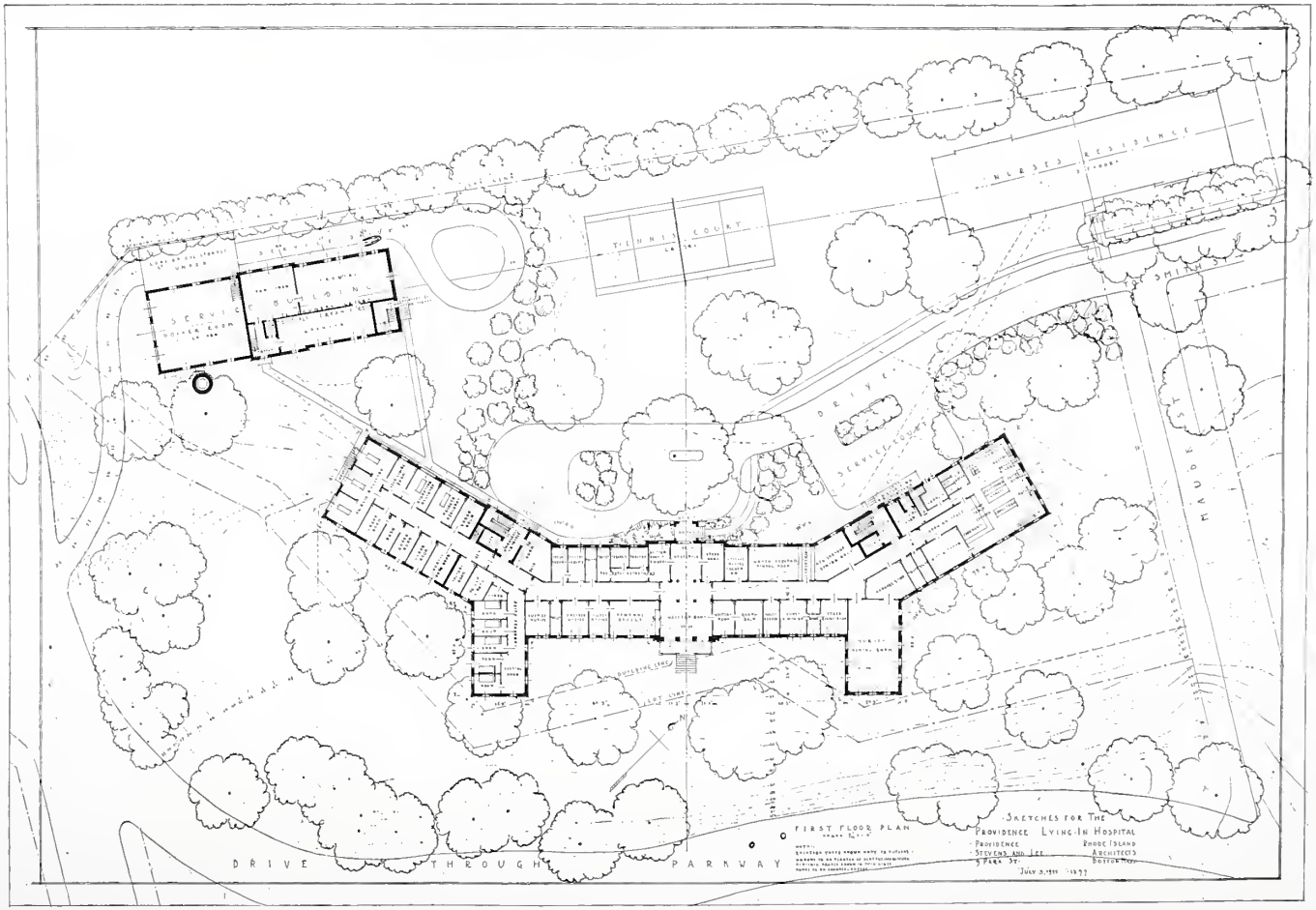
For the exterior, a form of architecture should be selected which would not suggest the "sick house," but something more uplifting and educational; for this should be a home where the expectant mother may enter as she would her own home, with a feeling of safety and comfort.

Such has been the effort of the architects in planning the *Providence Maternity Hospital,* which will care for the poor, the greater intermediate class, and the well-to-do.

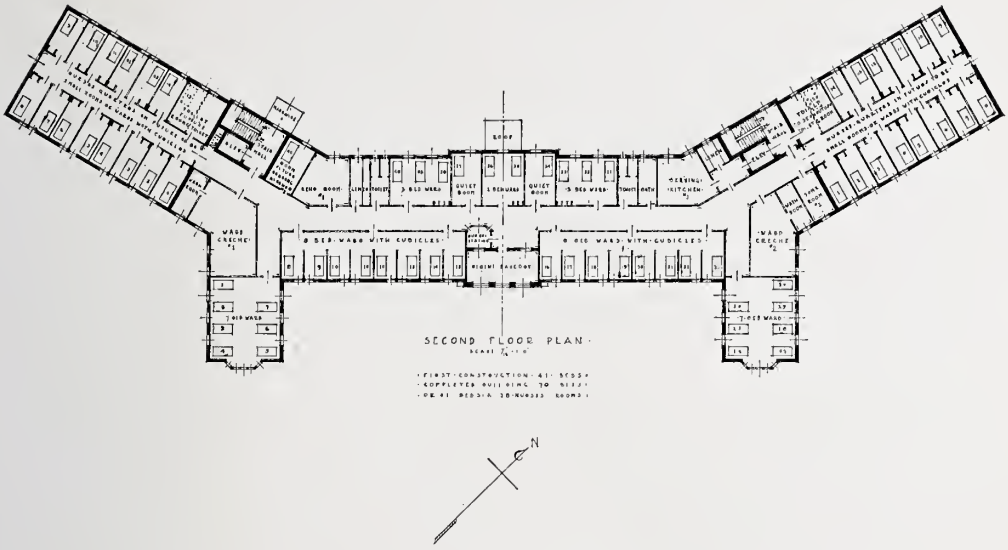
The location on a broad plateau overlooking the park suggested the type of architecture, and the plan was developed on this site. The natural contour of the land was made to add to the effectiveness of the design.

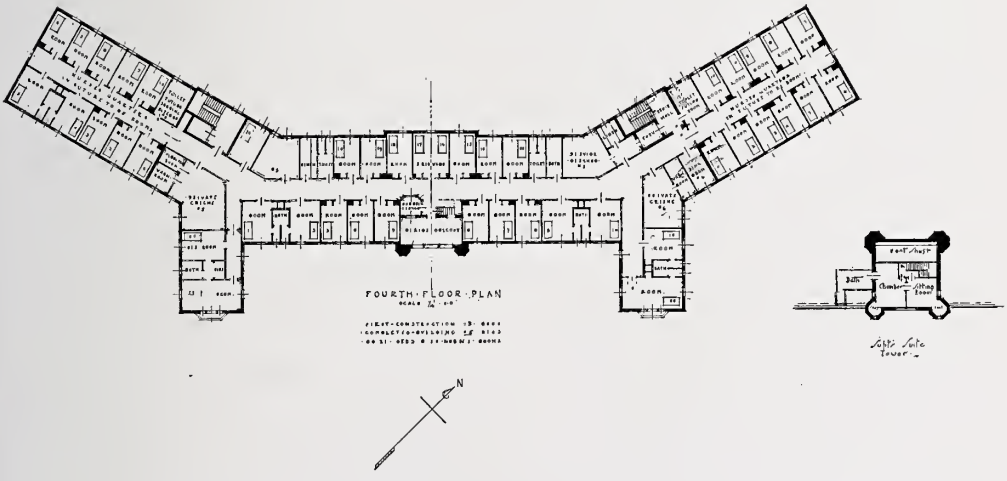
As the endeavor in designing every institution should be to divert the necessary mechanical part of the hospital from the portion occupied by patients, in this hospital the entire first floor will be devoted to the medical and surgical departments, the out-patient or pre-natal clinic, the kitchens, dining-rooms, and the administrative offices.

A glance at the first floor plan (Fig. 1) will show how this floor will function with the rest of the hospital. The main entrance leads to the offices and to the pre-natal clinic; the ambulance entrance to the admitting department and to the delivery and labor section; and the service entrance to the kitchens and dining-rooms.



BLOCK PLAN—THE PROVIDENCE MATERNITY HOSPITAL, PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.





SECOND AND FOURTH FLOOR PLANS—THE PROVIDENCE MATERNITY HOSPITAL, PROVIDENCE, R. I. STEVENS & LEE, ARCHITECTS.

From the ambulance entrance the patient is taken to the various stories by the elevator or staircase located in that section.

The second, third, and fourth floors are devoted to patients. There are wards for the public patients, but they are small and homelike. For the intermediate or semi-private patients, so-called, better provision is made. In many cases these wards are divided by permanent screens or partitions which extend from the outer wall to a point a little beyond the bed, affording visual if not aural privacy.

For private patients who can pay the price, there are private rooms and private suites. These rooms are fitted with home comforts, and have running water, a clothes closet, ample sunlight and air, quiet and seclusion.

On all patients' floors, large and sunny rooms are provided for the nurses (when not "on duty"), with wash room adjoining; serving kitchens, to which food is brought from the kitchen; bath-rooms and toilet rooms; linen rooms, and rooms for sorting and storing the various cut flowers and plants at night.

The exterior is designed to meet the dignity of the use to which the building is placed. While the Gothic feeling is given to the design, the fenestration is developed practically, to give light and air where needed.

ARE GREAT CITIES A MENACE?

— The Garden City as a Way Out —



BY LAWRENCE VEILLER

WHAT are we to say of the dangers that inhere in such vast agglomerations of populations as New York and London, where 6,000,000 people are included in a single community? It has often been said that if it were not for modern sanitary science, the modern city would be impossible. How true this is we realize when epidemics of infantile paralysis and influenza sweep the country—when, but for the efficiency of sanitary science, the population in our large cities would be decimated.

Modern industrial conditions have brought a new menace in the large city. Its citizens at times face famine as truly as did a beleaguered citadel in ancient days when a besieging army sat outside its gates. When New York awoke one morning thirty-four years ago to find itself snowed in under the great blizzard of 1888, it was not long before it became a serious question whether its store of essential food supplies would last until the city could be dug out and transportation could be resumed. As it was, not a drop of milk could reach the city for three days. What that meant to the life and health of the city's thousands of infants is readily apprehended.

And more recently a new menace of the great city has made itself manifest, holding for its citizens the threat of starvation. This time, not through any natural catastrophe but through industrial disturbance.

It was demonstrated about two years ago in the teamsters' strike and later in the strike of longshoremen, that a small group of men, controlling vast numbers of workers, held the city in the hollow of their hand, and by their ability to manipulate the transportation of the city's food supplies could, through the threat of starvation, bring New York to its knees.

Today, London is confronted by the same situation. At any time when the Triple Alliance so decides she will face starvation; for, when the transport workers unite with the railroad men and refuse to handle the city's food supplies, the city must either starve or come to terms.

That intelligent observers of our institutions have been alive to the dangers inherent in the unrestricted growth of cities was made manifest in this country over nine years ago when Viscount Bryce, at that time British Ambassador to the United States, in a memorable address delivered before the National Housing Association, discussed "The Menace of Great Cities." Among other things he said (see "Housing Problems in America," Vol. II.):

> "Evil is the inordinate growth of our modern cities. It is a phenomenon which is very striking, not only here but in all parts of the world. It is even more striking in Australia than in the United States. Sydney, the capital of New South Wales, has nearly half the population of that state. The city of Melbourne has half the population of Victoria. The city of Buenos Aires, standing in an enormous country, has, I think, one-fifth of the population of the whole of Argentina. The city of Montevideo has one-third of the population of Uruguay.
>
> These things all witness to a tend-



THE SHOPPING CENTER, LETCHWORTH.

ency of modern civilization to crowd people in vast centers. It is evidently increasing, and will increase unless we can find some way to stop it.

I wish to give you some reasons why a great city is a great evil.

First: From the point of view of health. In the city, and most of the great cities are crowded, there must be less oxygen and more microbes. I believe it is a fact that no city has maintained itself and its standard of physical excellence without an indraught from the country. If you were to leave the city alone—stop the indraught of the people who have grown up and formed their constitutions in the air of the country—the population would decline physically and, perhaps, begin to die out.

Second: It is a great evil in the city that people are cut off from nature and communion with nature, so that they who would like to enjoy the sights and scenes and blessings of nature can do so only on rare occasions and by taking a journey.

Third: It is an evil in that it separates the greater part of the community into classes and disturbs the sentiment of neighborliness between the richer and the poorer, which existed formerly in smaller communities and which ought to exist.

Fourth: Life in the great city tends to stimulate and increase beyond measure that which is the menace of the American city—intensification of nervous strain and nervous excitability. Cities are the homes — especially in the United States—of every kind of noise, and nothing in the long run puts a greater strain on the nervous system than incessant noise. People live in crowds, under the ceaseless stimulus of always seeing one another in crowds, always moving to and fro in street cars and railroads and automobiles, backwards and forwards and at an increasing rate of speed. They are always under that exciting influence which the mere sense of living in a crowd of people



ONE OF THE MAIN STREETS, LETCHWORTH.

and of trying to pack so many things in the 24 hours, including the reading of numerous newspapers, produces. It tells injuriously upon the nervous system. All these things tend to increase the nervous excitability and the consequent neurasthenia from which we are told most of us are suffering. Some people think this is going to be the real danger in the future of the human race, and that unless the right means are found for the protection of our nervous system, its undue stimulation and consequent exhaustion may become a source of weakness for mankind.

Fifth: If these conditions are not favorable for the population generally, they are particularly unfavorable for the bairns—I mean the boys and girls. The boy living in the country has any amount of opportunity for the development of his vitality, full space to give vent to his natural exuberance of energy. He climbs trees, jumps over fences, throws stones at the birds—fortunately he does not usually hit them; he rambles about with his boy companions and gathers blackberries and sees all kinds of things upon which his natural activity expends itself. He has all sorts of winter sports in snow and on ice. So he gets insight into nature through his curiosity and can have in the country some little sense of adventure. But if he is cooped up in the city he takes to rambling the street at night with other boys, and if he is not well guided in his home he is very apt to fall into bad company and get into all sorts of trouble. I think the Boy Scout movement has done a great deal to meet and cure that danger, but still it is a danger for many boys. There has grown up in the large cities a class for whom names have been invented, like "hoodlums" in California, and "larrikins" in Australia,

which denote an undesirable kind of boy citizen. It is a tendency much in evidence in huge cities among the younger part of the community, who have a superabundance of energy which cannot work itself off in the old natural way.

Sixth: Great cities are liable to become great dangers in a political sense, because the more men are crowded in great masses the more easily they become excited, the more they are swept away by words, and the more they form what might be called a revolutionary temper. All revolutionary movements or acts of violence are more apt to spring up in a dense city population, a population which is liable to be swept by excess of emotions, than among people living in the country.



THE AGRICULTURAL BELT AROUND THE TOWN.

Lastly: In the great city there is a deplorable amount of economic waste. In the city the manufactories, offices, warehouses and shops, all the large places in which people are employed, whether in distributing commodities or purchasing, are in the central parts of the city. The people want to live in the outer parts of the city, and as the city grows the people are driven more and more into the outskirts. If you will consider the amount of time that is taken from work to be given to mere transportation from the residence of the workingman to his working place in the city, you will see how great the loss is.



THE HOMES OF THE WORKERS.

I used to make computations of that in London. In London a large part of our working people live on the eastern side of London, the northern side and the southwest, and come in ten, twelve or fourteen miles every day to work. The man walks ten minutes to the railway station from the place where he lives, and then walks another ten minutes from the station to his work in the city, and he spends from three-quarters of an hour to fifty minutes, sometimes perhaps as much as 60 minutes, on the railroad. In other words he wastes from 50 to 70 minutes in the morning, and as much in the evening, which might be given to work, or if not to work, then to mental recreation or improvement. Think what that means in a year. Think what is the waste that is involved in a great city like London or New York in people spending an hour or more in the morning and another hour or more in the evening in going to and fro to their work, when if they were near their work they might either be working or enjoying themselves or having wholesome rest. It is an economic waste which is really an insult to our civilization; it ought to appeal to us on the mere business side, the need for

saving the productive capacity of our people from such waste.

Instead of letting a few cities grow to more than a million in population, it would be far better to have more and smaller cities not exceeding 150,000 population, or perhaps even 100,000. These would furnish all the things that are needed for comfort and social enjoyment."

Twenty-three years ago an unknown Court Reporter in London, Ebenezer Howard, dreamed a dream of an ideal community from which the evils of the great city would be absent and yet which would contain the advantages of modern city life; which would combine with those advantages the quiet and sweet charm, the healthfulness, the tranquillity and ennobling influence of country life.

Recognizing fully the tendencies we have referred to, towards concentration of the population in cities and the depletion of the countryside—today six-sevenths of the people of England live in cities—he set forth these influences as a series of magnets drawing the people towards the city, embodying his ideas in a book which he published in 1898 under the title of "Tomorrow; A Peaceful Path to Real Reform," later known as "Garden Cities of Tomorrow."

The idea contained in this book of a "Garden City" in which people might live with all the advantages of both city and country, through Mr. Howard's persistent advocacy slowly but surely gained acceptance in England, and seventeen years ago took visible form and shape at Letchworth, where in a peaceful country side thirty miles from London the first Garden City was established.

In those seventeen years, notwithstanding the difficulties that any pioneer effort such as this is bound to encounter, the results have been far beyond the fondest expectations of its most ardent advocates.



EVERY FAMILY HAS ITS OWN HOME.



A PRINTING AND BINDING FACTORY.

Today the Garden City is an accomplished fact; over 10,000 people live in Letchworth. Its eighty-two factories and workshops give employment to a large part of its population.

By the average man the Garden City idea is not fully understood. To him it is "a little collection of Noah's Ark houses, all with red roofs." Even when not thus ironically expressed it is merely an attractive suburban community where people live in pleasant surroundings.

That it is a vast scheme for decentralization of industry; for conservation of the nation's food and coal supplies; for improving the health and morale of the nation, is understood by comparatively few. Notwithstanding the years of educational work by such organizations as the Garden Cities and Town Planning Association, the idea is still imperfectly understood by the average man, who confuses it with the Garden Suburb and the Garden Village.

It may be asked "Just exactly what *is* a Garden City?" The essential features of the Garden City idea may be summed up as follows: Garden Cities are towns, limited in size and population, possessing a permanent reservation of rural land all round them, carefully planned so as to avoid crowding of houses and factories, in a self-contained community with sufficient industries to provide occupation for the inhabitants; with the population living in self-contained houses with gardens, as a rule with not more than eight families to the acre and with the land owned by the community and administered either by the municipality or by democratic non-profit-making bodies on behalf of the community.

As set forth by its founder, Mr. Ebenezer Howard in his original presentation of the subject in "Garden Cities of To-morrow," the scheme is described as follows:

> "My proposal is that there should be an earnest attempt made to organize a migratory movement of population from our overcrowded centres to sparsely-settled rural districts; that the mind of the public should not be confused, or the efforts of organizers wasted in a premature attempt to accomplish this work on a national scale, but that great thought and attention shall be first concentrated on a single movement, yet one sufficiently large to be at once attractive and resourceful; that the migrants shall be guaranteed (by the making of suitable arrangements before the movement commences) that the whole increase in land-values due to their migration shall be secured to them; that this be done by creating an organization, which, while permitting its members to do those things which are good in their own eyes (provided they infringe not the rights of others) shall receive all "rate-rents" and expend them in those public works which the migratory movement renders necessary or expedient—thus eliminating rates, or, at least, greatly reducing the necessity for any compulsory levy; and that the golden opportunity afforded by the fact that the land to be settled upon has not but few buildings or works upon it, shall be availed of in the fullest manner, by so laying out a Garden City



ANOTHER FACTORY.



THE RIVER MIMRAM AT WELWYN.

that, as it grows, the free gifts of Nature—fresh air, sunlight, breathing room and playing room—shall be still retained in all needed abundance, and by so employing the resources of modern science that Art may supplement Nature, and life may become an abiding joy and delight. And it is important to notice that this proposal, so imperfectly put forward, is no scheme hatched in a restless night in the fevered brain of an enthusiast, but is one having its origin in the thoughtful study of many minds, and the patient effort of many earnest souls, each bringing some element of value, till, the time and the opportunity having come, the smallest skill avails to weld those elements into an effective combination."

These are the essentials. Some advocates of the idea have placed rather undue emphasis on the feature of community ownership of land. This feature, however, is in no sense essential to the scheme.

In discussing this question not long ago with Mr. Howard, I asked him point blank to what extent he considered community ownership of land an essential part of the idea. He answered "To no extent," adding that, personally, he believed in it, and pointing out the many advantages accruing therefrom.

But the fundamental idea is just as sound, just as easily applied without this feature, as with it.

I raise this point because it has much importance for the United States. The conditions of land tenure here are so fundamentally different from those that prevail in England, that it would be folly to cling in America to a feature of the Garden City plan that was devised to meet an evil—very real in England—but non-existent here; for, England is a land of tenants so far as the average man is



WELWYN AS IT IS TODAY.

concerned, while America is a country of home-owners.

The vital features of the Garden City idea have just as much value for America as for England. These are: the definite limitation of the city's population (50,000 people has been set as a reasonable maximum; in the United States 100,000 or even 150,000 might be more appropriate); the agricultural belt surrounding the city, providing the chief part of the city's food supply and acting as a natural barrier against undue growth (better than the walls of the old mediaeval city); the inclusion in the city of diversified industries affording employment in healthful surroundings to the major part of the city's population; and last, but not least, healthful and attractive homes in peaceful and ennobling surroundings, with a definite limitation of the number of persons living in them (not more than eight families to the acre).

To practical men in America to whom such a plan may be proposed, the question will at once arise "Can it be done?" Will business men move their factories or establish new ones in such communities? Will they not prefer to stay in the large cities with their less limited labor markets even with their other disabilities? Will the workers move there? Will they not cling to their slums? Will they not prefer the noise and stir of the city's streets, the greater ease of obtaining employment, the greater amount of social life, the shops, the lights, the amusements, the free shows, the stir and bustle and activity of the great metropolis?

Fortunately, the answer to these questions does not have to be on a theoretical basis. It is not what people may do or may not do. It is what they have done. For the scheme has proved itself. It has seventeen years' practical experience behind it. Letchworth has been so great a success that a second Garden City is now being established at Welwyn, twenty-one miles from London.

The question as to whether manufac-



RURAL COTTAGES NEAR WELWYN.

turers will move to such communities is best answered by saying that they have done so. Letchworth contains eighty-two factories and workshops.

On August 1, 1920, the town of Letchworth comprised, in addition to these eighty-two factories and workshops. 2,282 houses, eighty-two shops or stores, and twenty-nine public buildings, including churches. As indicative of the growth of the town it may be of interest to note that in fifteen years the amount of water consumed increased from 10,000,000 gallons a year in 1905 to 177,000,000 gallons in 1919; that gas consumption increased from 5,000,000 cubic feet of gas in 1906 to 92,000,000 in 1919.

During the past year the progress in building has been marked. Eighty-four cottages had been completed by December, 1920, and 707 further cottages are now in course of construction as well as additional shops, factories and public buildings. Secondary schools for boys and girls are now in course of erection. New industries are rapidly being attracted to the town. Large extensions have been made recently to the Spirella Corset factory, to the Phoenix Motor Works and others. Among the industries which have recently taken sites preparatory to the building of factories at Letchworth may be mentioned a tabulating machine company, a pump manufacturing company, a manufacturer of baby carriages, a sawmill and timber yard and an engineers' pattern making plant. One of these employers of labor states that he can produce goods much cheaper at Letchworth than he can in a great city for the reason that the workers are more healthful and contented there than under ordinary city conditions. In one factory I found the workers singing at their work.

The best answer as to whether the workers will care to live in such a community is that Letchworth now contains over 12,000 people.

The Garden City idea has more than proved itself, from the point of view of improved health conditions. The local medical officer of health reports that, taking an average of the last ten years, the infant mortality rate for Letchworth was about 40 per 1,000 births compared with an average infant death rate for the whole of England of 89, or more than double that of Letchworth.

The death rate for both adults and children, that is, for the entire community in Letchworth, was but 6.1 as compared with a death rate of 13.7 for all of England.

If a nation can make that saving in human life, has it a right to refuse to do it?

While the Garden City has a direct appeal to all classes of society, to statesmen, to students of government and of economics, social and industrial conditions, it has an especial appeal to Labor and to Industry.

The outstanding feature of American industry today is the increasing importance which attaches to the stabilizing of labor. The war taught employers, among other things, the seriousnes of the economic waste involved in the constant shifting of labor; the training and breaking in of new workers in an industry; the importance of quieting industrial unrest. There is probabably no one factor which can achieve so much in this direction as the improvement of the living environment of the workers.

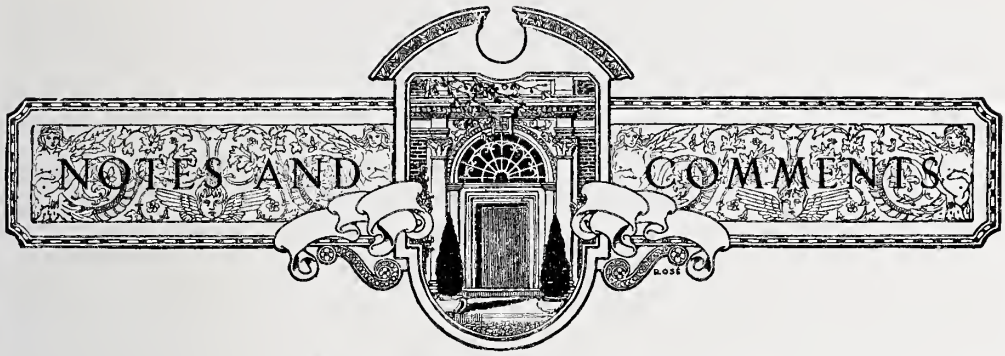
The Garden City is the most helpful and hopeful scheme to stabilize industry that has yet been presented.

England has demonstrated that the Garden City is a practical scheme; of benefit to the workers, of benefit to industry, of benefit to the community, of benefit to the Nation.

Will America heed this example, or will she be content to blunder on in the same old way?



WELWYN OF TODAY, WHERE THE NEW GARDEN CITY WILL BE BUILT.



Design of the Service Units of the Home.

The kitchen, pantry and laundry form a section of the home, particularly of the country home, that must be most carefully and scientifically designed, and no point, however minute, should be carelessly glossed over or passed by with indifference.

There is a correct sequence in the order of the location of these rooms. The pantry should be placed between the dining room and the kitchen, directly connected with swinging doors, and should have the passageway through the middle of it. The laundry should, if possible, immediately adjoin the kitchen on the side opposite to that of the pantry, thus allowing a direct passageway between the pantry and the laundry and greatly reducing tracking from the outside, particularly in bad weather.

The location of these rooms, as shown in Fig. 1, is excellent, and was the result of much study and thought, but their interior arrangements could be greatly improved and their value enhanced by the addition of deep closets in pantry and laundry. The large hall in front of the kitchen and laundry, connecting with the porch to the grounds, is particularly valuable, and will save much unnecessary tracking and soiling of floors. The arrangement would have been improved had the dining room opened off the pantry from the side opposite the kitchen—minimizing the chance of collisions. The kitchen is well placed, having no direct outside connection. The position of the laundry, near the outside entrance, is excellent, and its design, too, is good. Being quite separated from the rest of the house, it contributes to cleanliness and general exclusiveness of use. The dimensions of these rooms, to combine comfort in working with the least amount of care demanded for their cleanliness and upkeep, must be most carefully determined, and will be found to vary, of course, according to the size of the house and number of members of the household. The dimensions of the kitchen for a house with four masters' and two maids' bedrooms may be 12 x 15 feet, with the laundry 8 x 12 feet in the clear. The size of the pantry, exclusive of the deep closet, for a house of this size should be about 7 x 10 feet. It is as serious an error to design too large as too small.

The material for the flooring must be studied carefully. Tile, cement and such materials are cold, hard upon the feet, and, in the case of the former, both slippery and dangerous. If of cement or similar material, the surface must be coated with some protective paint to act as a binder and protect the surface against undue wear and flaking, and from forming a fine mineral dust which penetrates everywhere. Patented plastic material for flooring is excellent, but must be fine, close-grained, durable, finished with a surface which can be easily cleaned, and in attractive colors. Hard wood, if thoroughly seasoned and well treated with some solution forming a hard, lasting surface, is excellent, but it is somewhat absorbent and demands constant attention and cleaning. Heavy linoleum is excellent, will stand hard wear and abuse, is easily cleaned, procurable in attractive colors and designs, but should be laid upon a good, well-built flooring, with tight joints.

The side walls of these rooms, for a height of four feet above the floor, should be of some hard, non-absorbent, easily cleaned material—marble, tile, Keene cement, wood or the like. Marble is easily cleaned and will resist hard usage and wear. Cement and wood are much less expensive, well adapted for that use, and should be faced with some preservative ma-

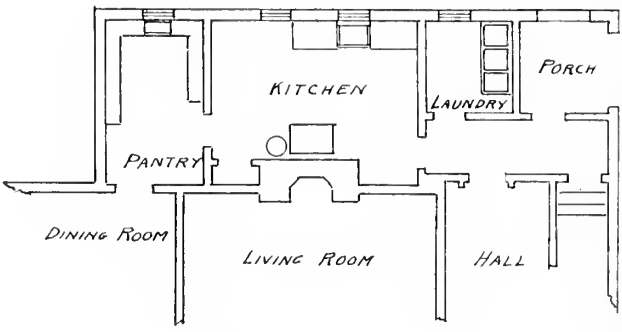


Fig. 1

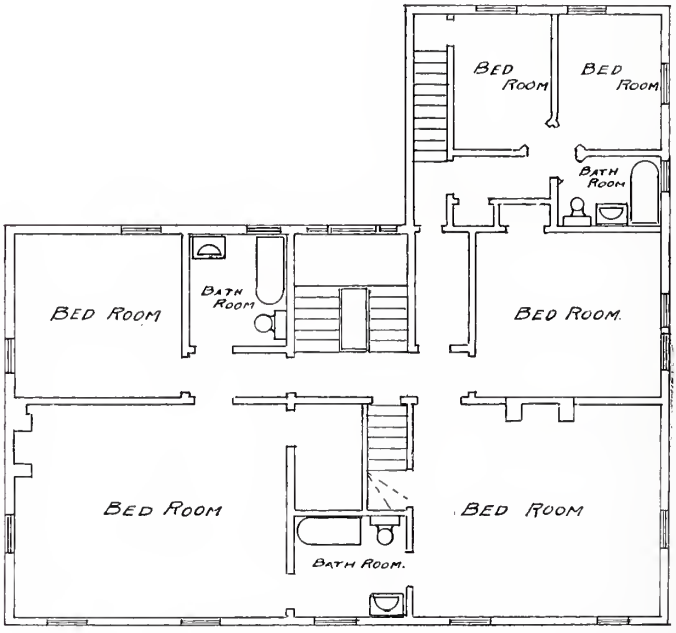


Fig. 2

SERVICE UNITS. DESIGNED
BY WILLIAM C. TUCKER.

terial with a hard, glossy surface, readily cleaned with soap and water.

These rooms should be made as attractive and pleasing to the eye as possible. They should be provided with ample closet space; each room should have a large store closet of its own with glass doors, in which should be stored only what is needed in connection with the room. Soap, starch, etc., should be stored in the laundry closet, but not in that of the pantry or kitchen. All three rooms should be provided with ample counter space under the wall closets, under which should be provided either smaller closets or large-sized drawers. Light and ventilation should be most carefully considered, particularly for the kitchen and laundry. The ventilation should be most thorough; there must be no draughts.

The proper equipment and location of the pantry and laundry is simple and may be well arranged with little study and forethought, but that for the kitchen and its suitable location will demand special attention. It has been demonstrated that a poorly designed kitchen, with equipment carelessly placed, may be the cause of unnecessary steps amounting to over half a mile a day. There can be no hard-and-fast rule for the proper location of the kitchen equipment, which must depend to a certain extent upon the general layout of each individual room. This simple suggestion may be of value in the arrangement of the equipment and the sequence in which it is used —the utility closet, the ice chest, the work table, the range, the sink, and the serving table. To apply this sequence to all kitchens will often be found most difficult; in fact, almost impossible. The serving table should be placed near the door leading to the pantry and should adjoin the range. The ice closet may be placed in the corner of the room, with outside connection to save tracking, particularly in bad weather.

The sink for the kitchen and the tubs for the laundry should be strong, of heavy construction and liberal dimensions, and of latest approved design. They should be attractive in appearance, of porcelain or earthenware, with integral backs, and resting upon firm and secure supports. The writer is opposed to the use of enameled iron for the sinks in the kitchen and for laundry tubs, except when cost is of most earnest consideration. The enamel is easily injured, the fixtures are rather light in weight and lacking in attractiveness of appearance. A separate sink in which to prepare the vegetables and wash the fruit for the table will be found most serviceable, particularly during the preserving seasons. The sink for the pantry demands particular attention, so that the breakage of glassware and fine china may be kept at its lowest. To accomplish this it should be built of heavy white metal—(German silver)—and, where cost has to be considered, of heavy planished copper, with a secure backing of white pine to resist any sudden blow and protect the metal of the sink against puncture. The faucets for use with these fixtures should be heavy, simple in construction and of some homogeneous metal, easily kept clean. They should not be plated, as plating soon wears off and leaves a splotchy appearance.

The writer is unalterably opposed to the excessive use of plated metal about any of the plumbing fixtures, particularly when in a dark corner or a difficult position to reach for cleaning. It soon becomes unattractive and covered with dirt. It is good designing, and greatly appreciated by those in charge, to have all metal work beneath the fixture so prepared that it may be painted with some good material which sets hard and presents a smooth, glossy surface. This should apply to work in the bathroom as well as the kitchen.

Hot water, particularly for a country house, must be copious and always available, and may be obtained from the kitchen range with boiler adjoining—an arrangement which will be found to meet all normal demands. In case of the house with six bedrooms, three bathrooms, kitchen, pantry and laundry, as shown in Fig. 2, it will be found poor economy to attempt to obtain the necessary service in this manner. In such a case an independent water heater with ample reserve capacity will be needed. It may be located in some spot little used. It is indifferent designing to locate the hot water equipment in any part of the functioning sections of the house, owing to the discomfort caused by radiation. To prevent this, all apparatus, piping, etc., should be well insulated with some non-conducting material.

The scientific treatment of bathrooms is of the utmost importance. In time past it used to be the practice to place this important room in a section of the house for which no other use could be found. The stupidity of this soon became apparent, and today the bathroom, its location and equipment, is given careful consideration. It must be of comfortable dimensions to accommodate the usual fixtures. It should

adjoin the room or rooms it serves. If possible, two bathrooms should be placed adjacent to each other, thus greatly reducing the cost of installation. Each room should have built into it, over the basin, a cabinet to contain toilet articles, and should contain a commodious closet. All dusting and cleaning articles should be placed in a hall closet designed for this purpose. The bathroom should not be located over an important or much used room on account of the noise transmitted from the onrush of water from the discharge of the plumbing fixtures; if such be unavoidable, the space about all buried pipes must be carefully insulated so as to be sound-proof.

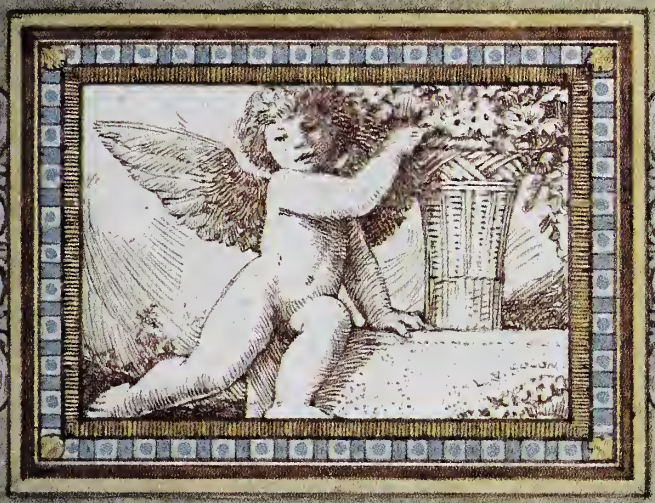
For this reason it is good designing and economy of installation to locate the room over the functioning section of the house or over closets. No bathroom should be placed over an open space exposed to the weather, as shown in Fig. 2, in the case of the room at the front of the house. Such a room is always difficult to heat, and there is fear of freezing the water pipes. Hot water pipes buried under tile or similar flooring should be encased in sheet metal covering to avoid excessive radiation, which will cause serious cracking. The flooring must be carefully considered. It must be absolutely water-tight, so that in case of accidental flooding from some fixture the ceiling and decorations below may not be injured. Wood flooring is not dependable; marble and tile are cold and slippery; rubber is not adaptable; the ideal flooring is yet to be found. The flooring under showers should be water-proofed with sheet metal extended well up and under side walls. It is poor designing to place a fixture in front of a window, particularly the bath, for it necessitates closing the window when in use.

The plumbing fixtures for the bathroom must be simple in construction and of excellent quality. The bath should be of enameled iron of the low, built-in pattern which has no space under it to catch dust. The basin should be commodious, of porcelain or enameled iron if cost has to be greatly considered, with integral back and of rectangular pattern; the oval pedestal lavatory to some may appear alluring, but its utility should be given first consideration. The faucets should be of large size, of Fuller pattern, and of solid metal without plating. The water closet should be of vitreous china, syphon action, low-down type, with low china cistern of large capacity and with full size supply, so that it may refill quickly.

All houses of the size shown in Fig. 2 should be provided with slop sinks on both first and second stories, so that the enamel of the sinks and baths may not be injured from pails used in cleaning.

WILLIAM C. TUCKER.

The Architectural Record



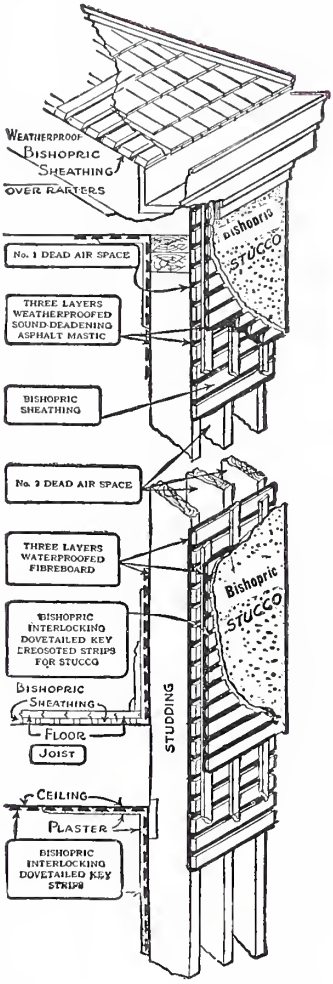
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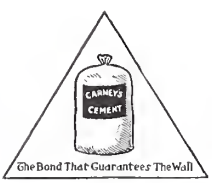
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A. B. C. Showing the effect of gradated tone upon a flat architectural member.
D. Illustrating the effect of color alternation upon mutually antagonistic tones.
E. F. H. Examples of color alternation from Greek terra cotta moldings.
G. Terra cotta Anthemion.
I. The great gable akroterion of the Heraion at Olympia, colors arranged in alternation.



ARCHITECTVRAL POLYCHROMY

BY LEON V SOLON

PART III

The Technique of Color Effect
Structural Materials Available

IN attempting to establish the basis for technique in architectural polychromy it is necessary first to recognize the effect-value of a physical property of color known as its "radiant energy." The "wave-length" of a color is the scientific expression which describes the degree to which this form of energy asserts itself in our vision. A simple observation which can be made any day in our streets enables us to appreciate the operation of this force. If we fix our gaze upon any distant multi-colored poster or painted sign, we find that certain colors assert themselves; some are not so easily determined; while others are indeterminate. As we walk toward the sign the indeterminate colors gain identity. On checking up our observation, we find that the colors seen distinctly at the longest range are those of the greatest prismatic purity; the others being colors of a composite character. The progressive degree of visibility corresponds directly to the degree of radiant energy in each color in the group. Such an active property in color naturally calls for aesthetic adjustment in artistic effect. If colors of contrasting degrees of radiance be applied injudiciously to items of a façade, the prominence of each item will be proportionate to the color-activity of the tints upon it, regardless of its relative architectonic importance. Such a result would obviously be disastrous. A medium of effect which is attended with such dangerous hazards in its employment must surely have been thoroughly controlled by the Greeks, who left nothing to chance in art, and who habitually used color upon their buildings. A method of adjustment between disturbing color elements in an architectural scheme was actually devised by them. When the theory is explained its application will be recognized in one of their most freely adopted conventions,

that of *color alternation* upon repeating detail. This practice has hitherto been credited with no particular significance other than decorative interest.

Effect of Alternation Upon Contrasting Colors.

To realize a quality of effect in architectural polychromy that is appropriate to the massiveness of structures it is advisable in the majority of cases to select colors possessing a pronounced degree of radiant energy or prismatic purity. The intensity of light out in the open, and the distance at which many items of a façade are placed from the eye, preclude the satisfactory employment of delicate or subdued colors, owing to their lesser degree of visibility. This point was appreciated by the Greeks, who established an architectural palette of strong colors. They recognized the danger inherent in tones of such quality, and counteracted detrimental color-activity by decorative treatment. The explanation of the principles upon which they proceeded is as follows:

In plate III, diagram D, a color chart is shown in which bright red and blue are arranged in checker form. These colors were chosen by reason of their mutual antagonism; they possess no common tone factor which might serve as a harmonizing link; placed side by side in equal areas these colors clash. The chart is divided into sections, the size of the color-unit decreasing progressively. In examining the quality of color effect through these progressive stages, it will be observed that, as the frequency of alternation increases, mutual antagonism between the two colors apparently diminishes. If this process be continued to a stage at which the unit is of minute dimension, the resultant effect is that the two colors are unified in a composite tone. In the case of the colors selected in our experiment, a purplish color is obtained, which assumes a reddish or bluish character according to the superior degree of radiant energy existing in either of its component elements.

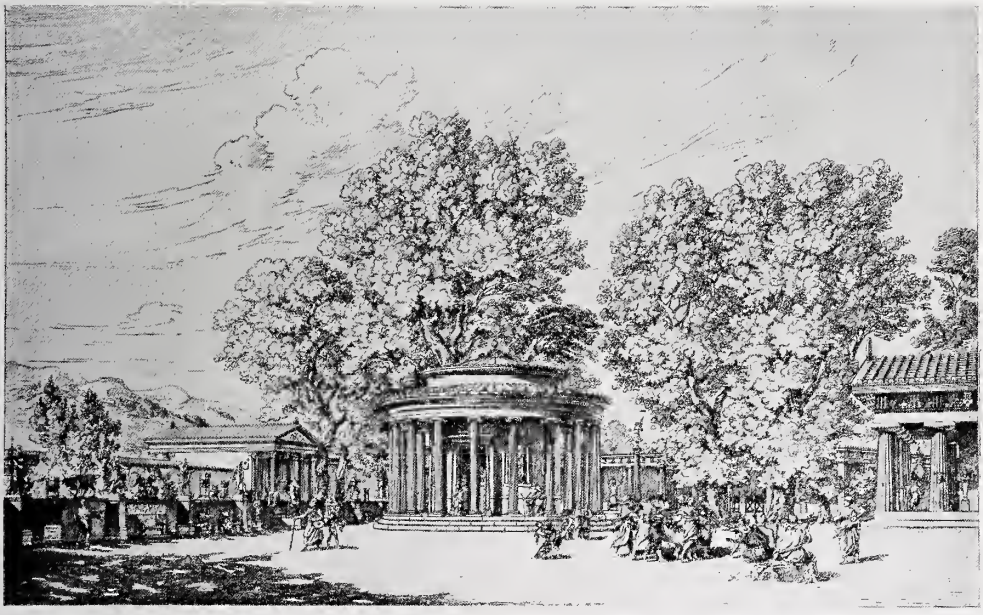
In applying this experiment to other colors, it will not infrequently be found that owing to varying degrees of radiant energy, one color will apparently lie in a different plane to that occupied by its companion; this disparity is neutralized by increased frequency in alternation over a given area. The estimation in which color alternation was held by the Greeks as a means for adjusting those phenomena can be appreciated by the most casual observer examining Greek colored detail. The leaf mold (E) which we illustrate from the Parthenon (also used in the Akropolis temples, at Olympia, and on many other structures) is a typical example; by this method they developed decorative interest and beauty from elements which have no natural affinity. The colors in this member apparently occupy the same plane, but had the upper part of the leaf been treated uniformly in red and the lower part in blue (or in juxtaposition) the disparity in color-activity would have asserted itself detrimentally. This principle of alternation is invariably applied to the palmette when it is used in a motif on which two or more colors figure.

The next question, in order of importance, to that of decorative tone adjustment, is that of tone development. It is necessary to determine whether ornamental or architectural detail be treated exclusively with flat* tones; or, whether gradated color is advantageous under certain circumstances. In the preceding part of this treatise it was demonstrated that the latter form of treatment was incompatible with good architectural effect in a façade. The following argument will explain our reasons for this opinion. A simple experiment will elucidate the action of gradated color in its architectural relation. In color plate III, diagrams A, B, C, three bands are shaded with gradated blues, modulated from a deep indigo to a cerulean. As we view this shaded color, we experience the impression that the areas so treated are curved;

*When we refer to "flat" colors as apart from "gradated" tones, we do not naturally include in the latter category such color quality as is found in marbles, and such other naturally colored materials as patined bronze, etc., as these have an aggregate tone value in a scheme. We refer to a specific form of color manipulation made with definite ornamental intent, in which "shading" is eliminated.

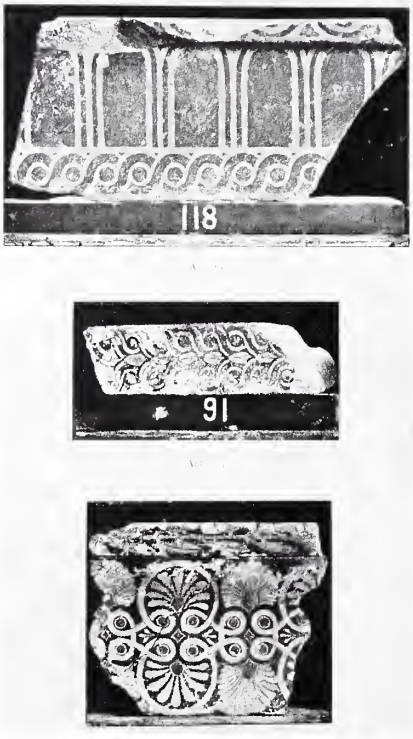


PERSPECTIVE SHOWING THE TEMPLE OF ZEUS, WITH THE GREAT ALTAR ON THE RIGHT.



PERSPECTIVE OF GROUPS OF POLYCHROME BUILDINGS SURROUNDING THE TEMPLE OF ZEUS. THE PHILIPPEION IN CENTER, THE HERAION ON THE RIGHT AND THE GYMNASIUM ON THE LEFT.

that certain parts project and others recede from the ground upon which they are placed according to their color treatment. Let us transfer this experiment to a flat vertical fillet upon an architectural member. The disadvantage of this form of color application will at once be obvious, as the fillet will have lost its characteristic flatness; the shaded color creates an illusion corresponding in effect to that produced by light and shade upon a curved surface. There is an elemental property which every ornamental architectural detail must possess; it must be part of, or incorporated with, the item it embellishes; any decorative process which destroys or discounts that impression is pernicious. Consequently, the illusion produced by the use of shaded color, which apparently causes surfaces to have a different relation to actual surfaces than that which exists, must necessarily detract from the architectural integrity of those structural or ornamental features upon which it figures. Gradated color makes an illusion which is an artificial equivalent for an effect of relief, and as such must be condemned, being contrary to the elementary requirement of substantiality in architectural treatment. In the art of architecture the illusory claims no legitimate place; a decorative method which counterfeits substance is in opposition to the dictates of artistic taste.



PAINTED DECORATION IN MONOTONE (RED) UPON STONE; ISLAND OF AEGINA.

Decorative Methods in Greek Polychromy

Greek polychrome buildings may be grouped into three classes, each class being determined by the material employed in structure, and the decorative methods contrived to develop color effect. Our classification is as follows:

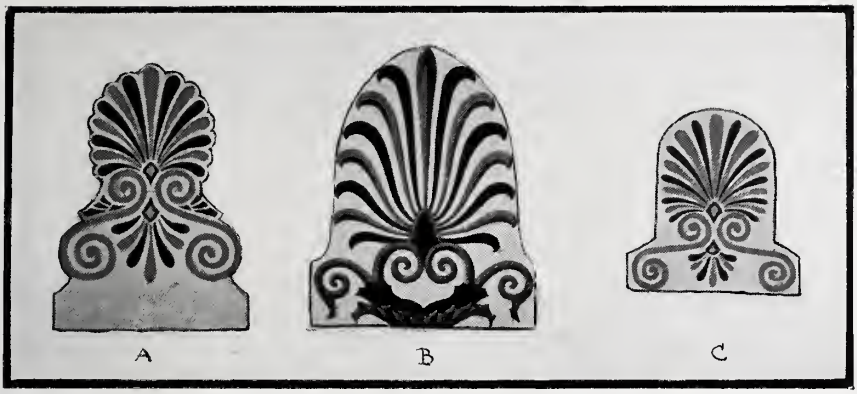
Group I: The early wooden structures (e. g., the Temple of Apollo, part I, ill. No. 2) in which such items as roofs, gargoyles, anthemions, cornices, and metopes were of terra-cotta variously colored.

Group II: Structures of tufaceous stone. With this material it was not possible to produce that unbroken continuity of plane and arris which their sense of fitness demanded. To rectify this, the face of certain members was finished with a veneer of finely textured stucco, upon which ornamentation was painted after the manner of fresco. Polychrome terra-cotta is also used for certain decorative features in buildings of this type in combination with the painted stucco.

The terra-cotta is made to serve as a casing for roughly hewn stones in certain moldings. The pediment and cornices in this and other examples are made entirely of terra-cotta.

Group III: Marble structures on which polychromy was developed by the "encaustic" process. By this process pigment was mixed with melted wax and the ornament painted on with the mixtures. To make the color penetrate the pores of the marble, hot irons were applied to the parts so treated.

We can not avail ourselves of all these alternates for many reasons. The above methods were not all in use simultaneously, but are identified with successive



COLOR ALTERNATION ON THE PALMETTE. (A) AEGINA; (B) PARTHENON; (C) PHIGALIA.

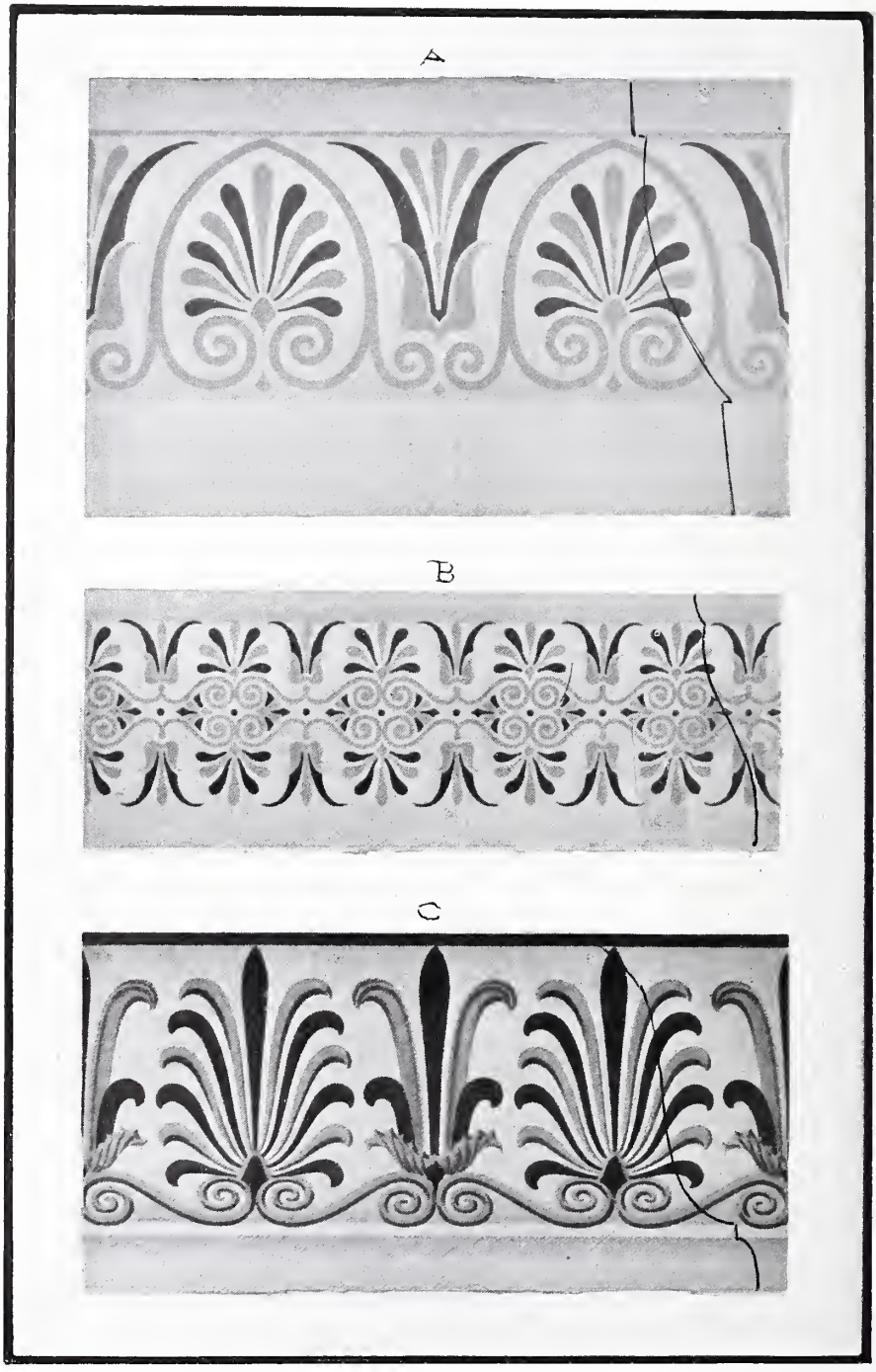
stages of development extending over four centuries. In many populous sections of this country, climatic extremes narrow the range of suitable media and materials. The chemically charged atmosphere of urban areas has a disastrous action upon most pigments. The frescoing of stucco, for example, would hardly be considered by any architect who recalls sgraffito façades of comparatively recent making. Their disintegration has been very rapid, due partly to atmospheric conditions, and largely to the so-called technical perfection of the cement material and the scientific ingenuity of the color maker, which produces results which in many ways are inferior to primitive methods. Similar considerations also eliminate any prospect of a satisfactory revival of the encaustic process. The combination of wood and terra-cotta is not one which is likely to fire the imagination of the average American architect. Apart from this process of elimination, modern sympathies would naturally lead to the combination of glazed clay with a structural material, either natural or artificial; the latter product now offers many excellent variations in texture and tint. Other materials which promise good results as background to color, are the numerous types of rough-texture brick, cast stone, and stuccos in certain tones and surfaces.

TERRA-COTTA AND FAIENCE

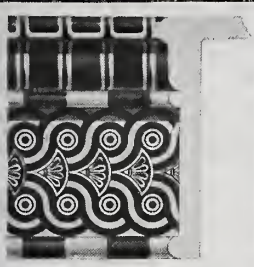
These two glazed-clay materials will undoubtedly be the general media for polychrome effect in modern architecture. Terra-cotta today is a somewhat crude product, artistically undeveloped. Its chief advantages are its comparatively economical cost, and the possibility of producing large-sized structural units. Owing to controlling economic considerations the terra-cotta palette is restricted and at present not very adaptable to structural effect. *Faience is a highly refined material of the same technical character; the palette is practically without limit in its range of tone and quality of texture. The temperatures at which the colors are developed are very varied, as the great number of metallic oxides which are used to obtain the palette are only attainable at different temperatures. There is no comparison between the range of color effects realizable with faience glazes, and those available in terra-cotta at the present time.

If architectural polychromy is to be successfully practiced in this country, architects must bear in mind a very important consideration, which so far is ignored, and is responsible for the comparatively low rating of clay-products among structural materials. Clay possesses an individual and characteristic quality in its plasticity, which, in the hand of an accomplished sculptor is capable of expressing a distinctive beauty of an exalted form. Yet, this material has been commercially debased into a poor counter-

* The term "Faience" originated in France in the seventeenth century to describe native products corresponding technically to those of the Italian potters of Faienza during the sixteenth century.



COLOR ALTERNATION OF CYMA DECORATIONS: (A) PARTHENON; (B) TEMPLE OF APHAEA; (C) TEMPLE OF PHIGALIA.



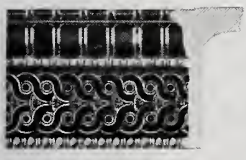
I. SELINUS



II. SELINUS.



III. SELINUS



IV. MUSEUM IN PALERMO
(AUS AKRAE.)



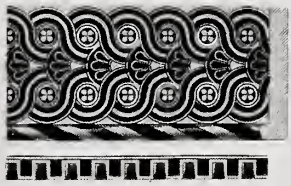
V. MUSEUM IN PALERMO.



VI. MUSEUM IN PALERMO.



VII. SYRAKUS. ZEUS-TEMPEL.



VIII. MUSEUM IN SYRAKUS.



IX. SYRAKUS. ATHENA-TEMPEL.



X. CROTON

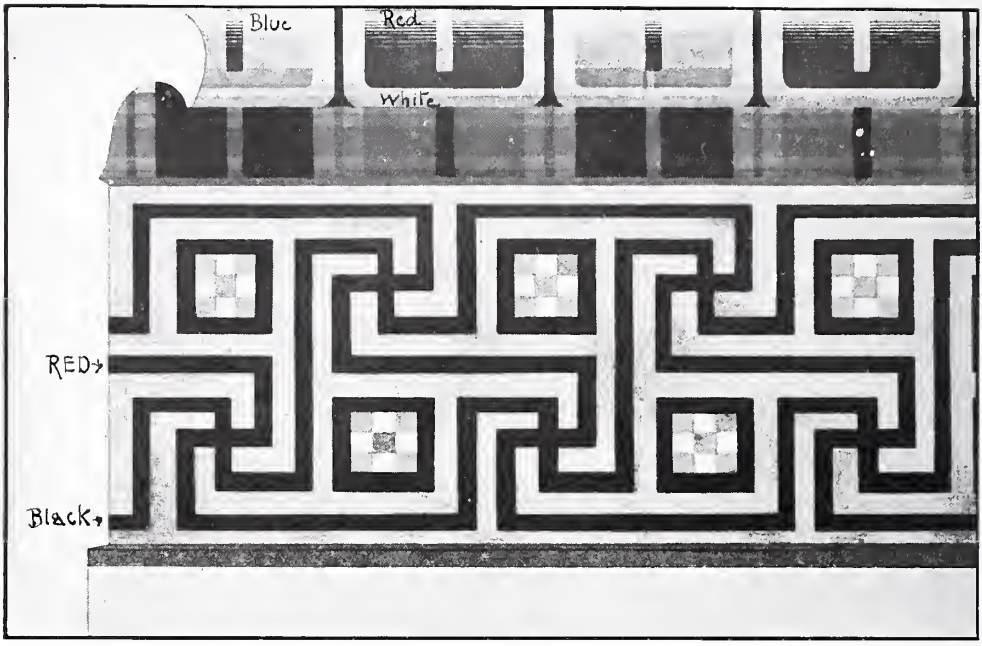


XI. METAPONT



XII. MUSEUM IN SYRAKUS.

POLYCHROME MOLDINGS DESIGNED WITH ALTERNATING COLORS.



CYMA OF TREASURY OF SICYON, OLYMPIA GROUP.

feit of stone; its modeling is often a servile copy of the chiseling of the stone mason; in its attempt to simulate a sawn block of stone its plastic character causes it to fail signally. The Greeks appreciated the capacity in plasticity to expressing beauty, and to that end contrived a technique and a distinct form. Clay was not regarded as an inferior medium suitable only for baser purposes. The rarest prizes at the Olympic games were their beautiful vases, which were held more precious than objects in costly metals; their aesthetic perception attaching a higher value to the beauty they wrought, than to values which were merely intrinsic. Examination of Greek architectural terra-cotta will reveal an individual technique evolved through their appreciation of plasticity; its treatment is as different from the technique of stone-carving in feeling, as is the technique of their admirable terra-cotta figurines from contemporary works of sculptured art in marble or bronze. Distinct decorative interest and qualities characterize Greek architectural terra-cotta; these evolved from their attraction towards plasticity in the material; their technique is the natural outcome of an appreciation of inherent capacities in material, decoratively developed.

(To be continued)

Villa Dei Collazzi, Tavarnuzze, Tuscany

By Harold Donaldson Eberlein

THE Villa dei Collazzi, near Tavarnuzze, in one of the most beautiful parts of Tuscany, not many miles south of Florence, was built early in the sixteenth century and, if there be any truth in a persistent local tradition, was designed by no less a person than Michelangelo.

The design of the villa is in itself most engaging, but apart from that, one of the features that most forcibly impresses the visitor is the breadth of the scale upon which it is planned. Some idea of this may be obtained from the fact that the platform occupied by the open *cortile* is more than eighty feet across between the north and south wings.

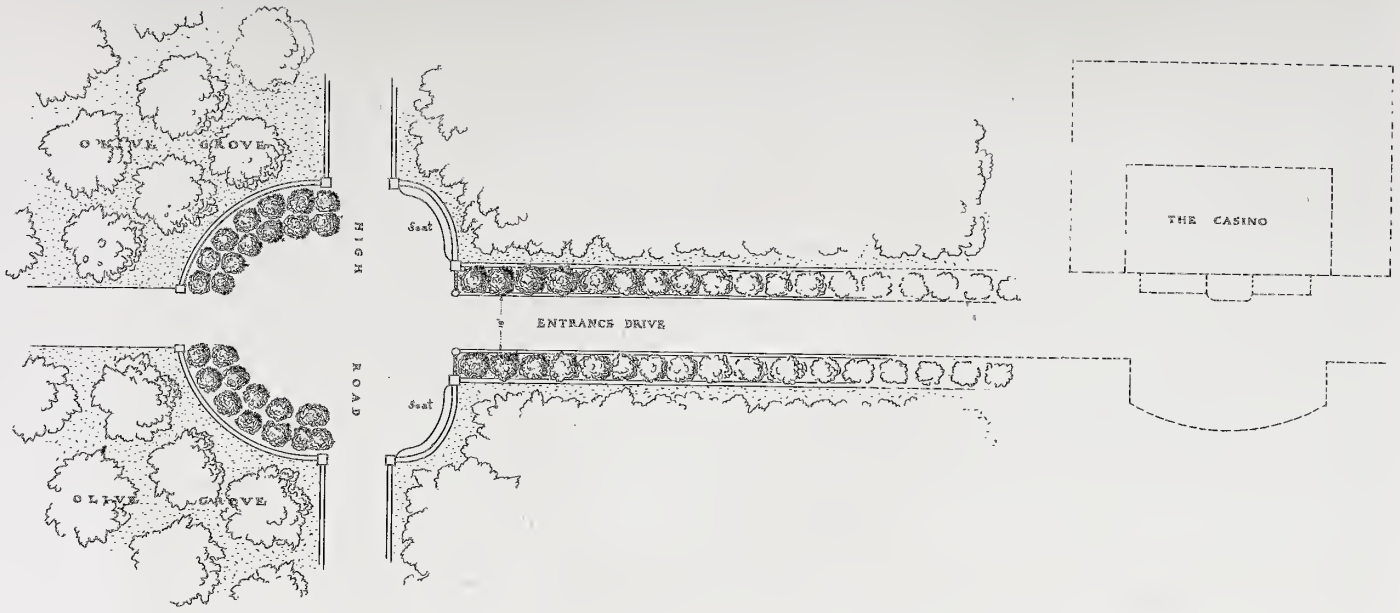
The villa crowns the summit of a high hill and commands a broad prospect in all directions. Open to the east, the *cortile* admits a flood of light and sunshine, so that it affords both shelter and warmth for early spring and late autumn, and yet it is so contrived that there is abundant cool shade in warm weather. The entrance through the loggia admits one directly to the great hall, an enormous apartment with a barrel vaulted ceiling. From this hall, at each side, open out series of rooms and passages. Elsewhere than in the great hall, many of the rooms on the ground floor have beamed and painted ceilings, the beam ends resting upon carved corbels. Still other rooms have lunette vaulted ceilings.

The stuccoed walls are of a warm brownish grey color, rather more brown than is the case with many other villas of this date. The trims and pillars are of *pietra serena* in which the brown tones often predominate over the colder grey that one so often finds, especially in the neighborhood of Fiesole.

Whether any serious credence is to be attached to the tradition attributing the design to Michelangelo—we know as a matter of actual history that he was a close friend of the family that built the villa—it is patent that the structure has more architectural pretension than most of the contemporary villas in the vicinity. Whoever the architect was, he displayed ripe knowledge of composition and balance. In the matter of detail, also, there is discernible the nicest discrimination, and close scrutiny again and again reveals a pleasing and all too rare combination of adroit delicacy with vigor.



APPROACH TO CORTILE—VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



BLOCK PLAN — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



EAST LOGGIA — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



EAST FRONT — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



GROUND AND FIRST FLOOR LOGGIAS—VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



WEST LOGGIA, FIRST FLOOR—VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



DOOR IN NORTH WING—VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



NORTHWEST ANGLE OF CORTILE—VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



DETAIL OF FIRST FLOOR LOGGIA, EAST FRONT—
VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



GREAT HALL — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



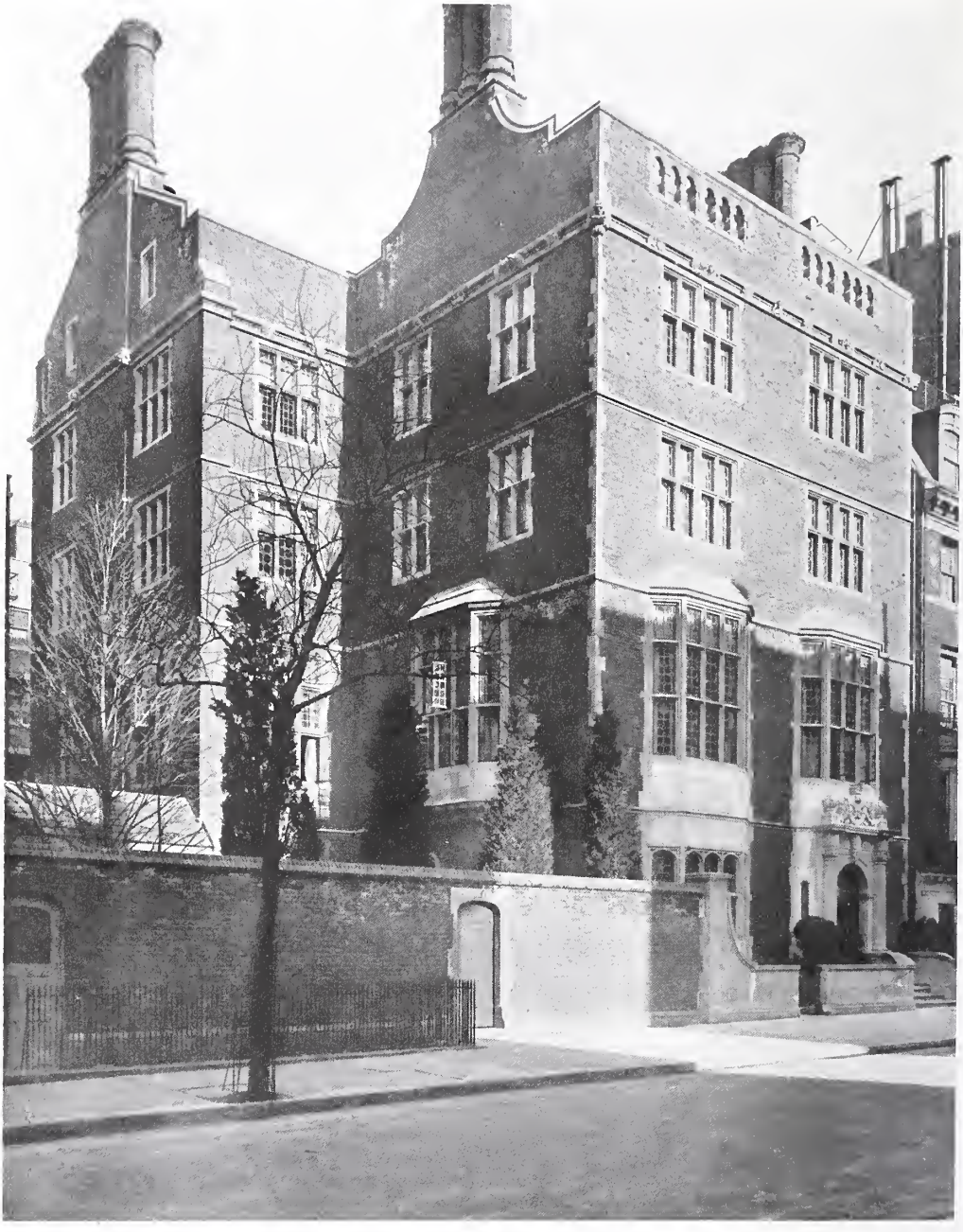
FIREPLACE IN GREAT HALL — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



DETAIL OF FIRST FLOOR LOGGIA, WEST FRONT—
VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



WEST FRONT — VILLA DEI COLLAZZI, TAVARNUZZE, TUSCANY.



RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.

THE TOWN HOUSE OF THOMAS W. LAMONT, ESQ. NEW YORK CITY

WALKER & GILLETTE, ARCHITECTS

By Matlack Price

THE designing of the city house has always been distinctly a problem, and one which has apparently been thought of as imposing restrictions rather than offering opportunities. Opportunities, at any rate, seem to have been largely overlooked. By far the greater number of city houses express merely a consciousness of the site and of urban conventions; very few have any architectural significance.

The city house, of course, shared much the same evolution in style as affected all types of building in this country. First, there were the early American houses built in the first cities of importance—the dignified brick houses of Philadelphia and thence southward through Baltimore, Washington, Alexandria and Richmond; the fine old wooden houses of Newport and Salem and other New England seaport towns. These early houses were good because they were sincere, and a real expression of the taste and ideals of their time. Inept imitations of European grandeur had not become the fashion.

The type of city house evolved during the brief period of the Classic Revival (about 1800-1836) in this country, represented for the most part an honest though mistaken stylistic conviction, and left many really fine examples. Based, however, on the French Empire style, the city house of the Classic Revival period began to introduce and to popularize a certain kind of pompous grandeur by no means in accord with the real tastes or ideals of the average American family. High, studded rooms, tall pier glasses and crystal chandeliers were an echo of old European grandeur, expressing fashion rather than any real national ideal. And as the era of the Classic Revival passed into the Civil War period, and the period of the Philadelphia Centennial, the city house came to have little expression or even suggestion of domesticity.

Architectural style, morover, degenerated into unintelligent imitation of the worst types of contemporary French design. This was the period which evolved and built by thousands the architecturally unspeakable "brownstone front."

It was not until the period of general architectural regeneration that the city house began to show signs of improvement. A good many of our architects had been studying in Paris, and because the Beaux Arts manner had a certain urbanity and richness of appearance, modern French architecture became the most popular style for the important city house. It quite supplanted the earlier French style of Francis I, once highly popular, and also the various renderings of the "picturesque" derived from Richardson and other sources.

The great popularity of the Modern French manner certainly exceeded its appropriateness, although the style had, and still has (it must be admitted) certain qualitites of smartness and urban sophistication to be found in few other styles. Fundamentally, however, the Modern French style, especially in its more ornate and profuse forms, has a distinct pretentiousness and demands correspondingly ornate furnishing and decoration. The complete house of this type has no real racial affinity for this country, no elements to make it a home as well as a house.



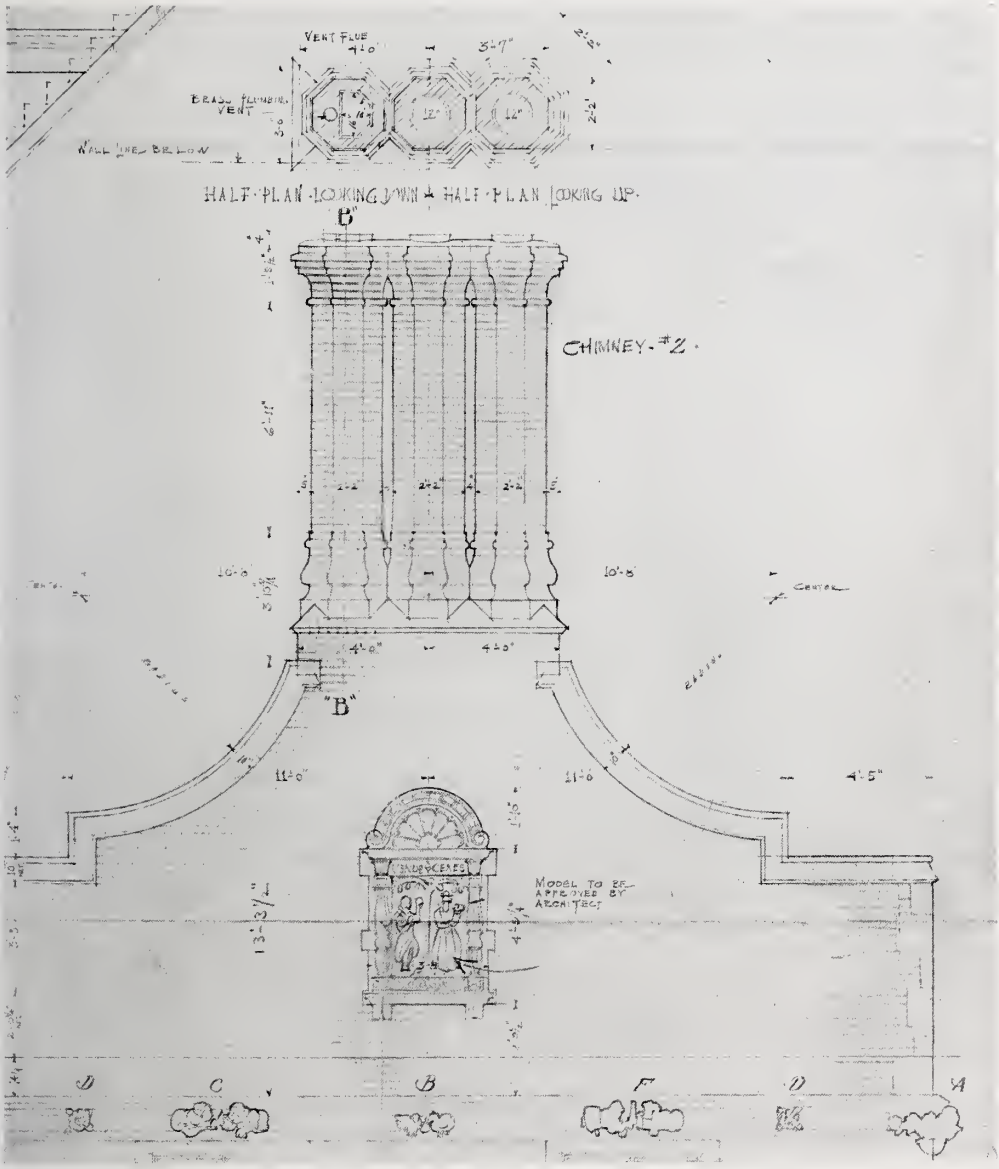
GARDEN WALL—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



ENTRANCE—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



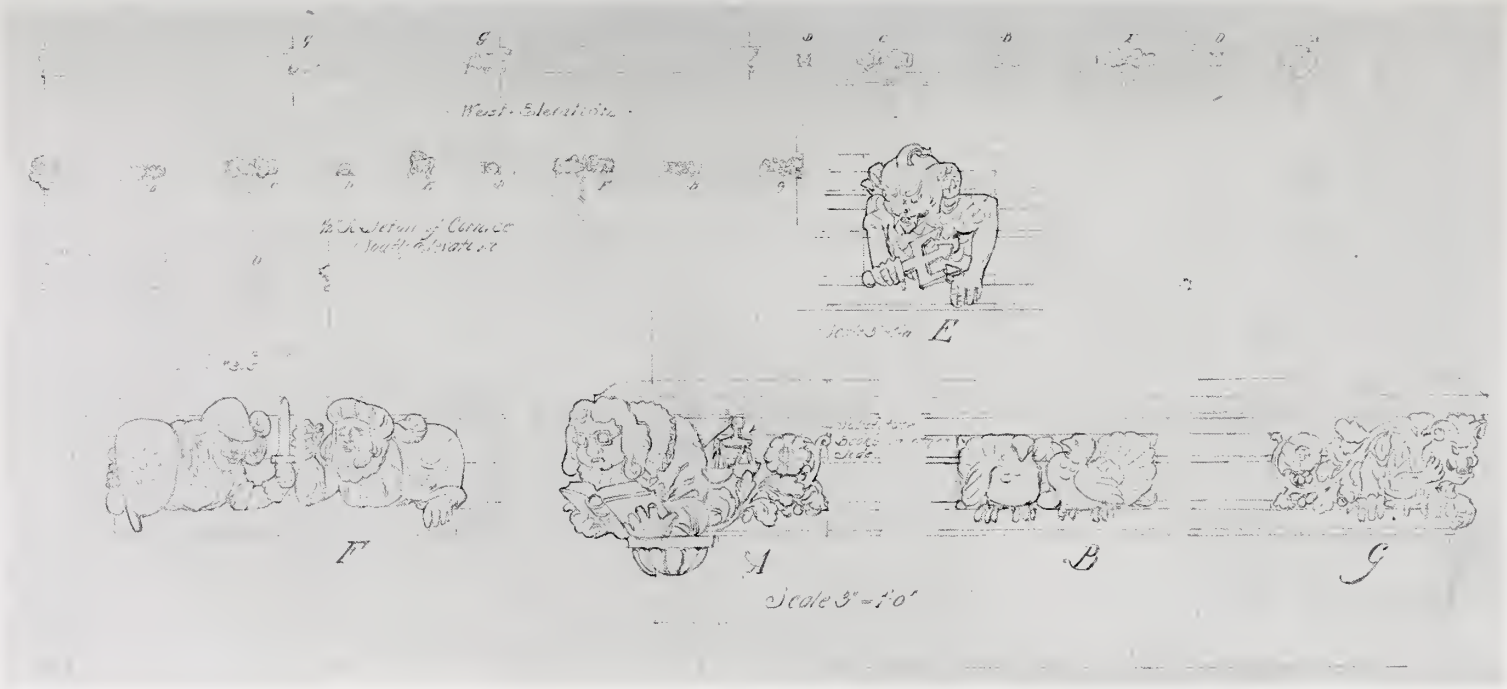
CHIMNEY—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



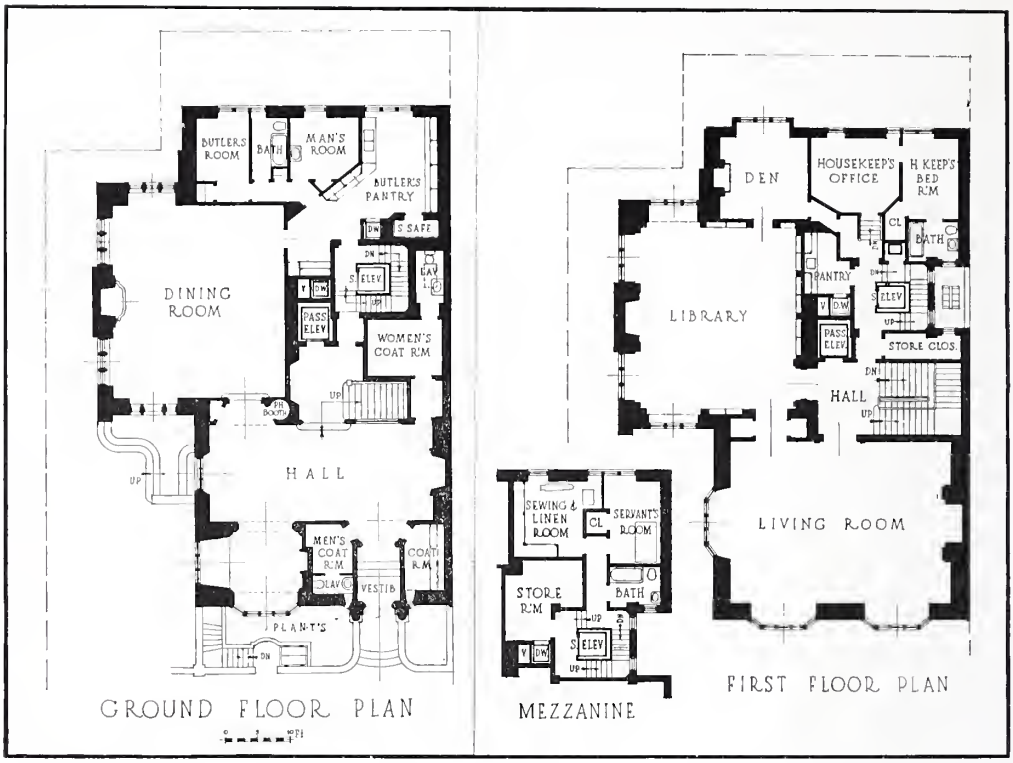
DETAIL OF CHIMNEY—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



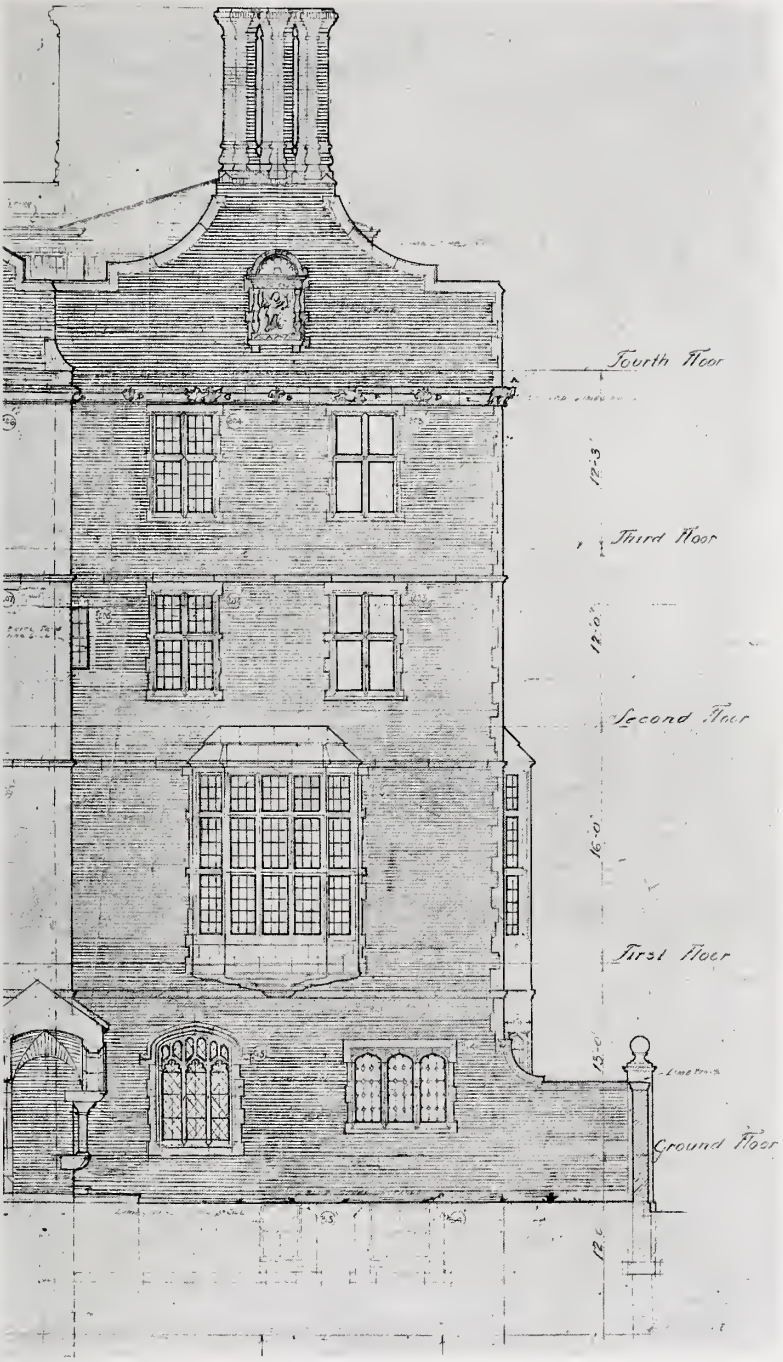
DETAIL OF GROTESQUES IN CORNICE—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.



DETAIL OF GROTESQUES IN CORNICE—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.



FLOOR PLANS—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



DETAIL OF SIDE ELEVATION—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.



CLOISTER—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.

There is more to be said for the Italian manner, whether for the small or large city house. Here, at least, is a fine expression of architectural dignity, achieved by large, unornamented expanses and a general fitness and good taste in scale. Liberal adaptations of the Italian manner in urban architecture have certainly been the architectural salvation of the large apartment house and of many hotels.

The smaller city house has found a host of happy solutions in the Georgian style, of brick, with dressed stone trim and a little simple ironwork. Certainly a distinct improvement was effected, not only in historical and racial appropriateness, but in appropriateness to the scale and manner of the life of today in this country. Architecturally the Georgian Colonial city house is easily designed and adapted to fit small areas, and to dwell in pleasant accord with its near neighbors.

Such, broadly and briefly, has been the succession of styles in the evolution of the city house, if we add a few hybrids and a few rarities, such as the Flemish and Dutch Renaissance type, with stepped gable, and the English Renaissance, which is variously called Elizabethan, Tudor or Jacobean, according to its stylistic inflection or the owners' fancy.

When the peculiarly fine architectural qualities of the Lamont house gradually assert themselves—its tall gables, or its dignified façade—one wonders that there was never an extensive phase of Jacobean popularity. Why did people experiment with so many other and less pleasing styles? The answer is, perhaps, that in the building era recently passed—the period that was drawing to a close even before the World War—the Jacobean style was not considered "showy" enough



DETAIL OF PLASTER WORK IN HALL—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.



HALL—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.

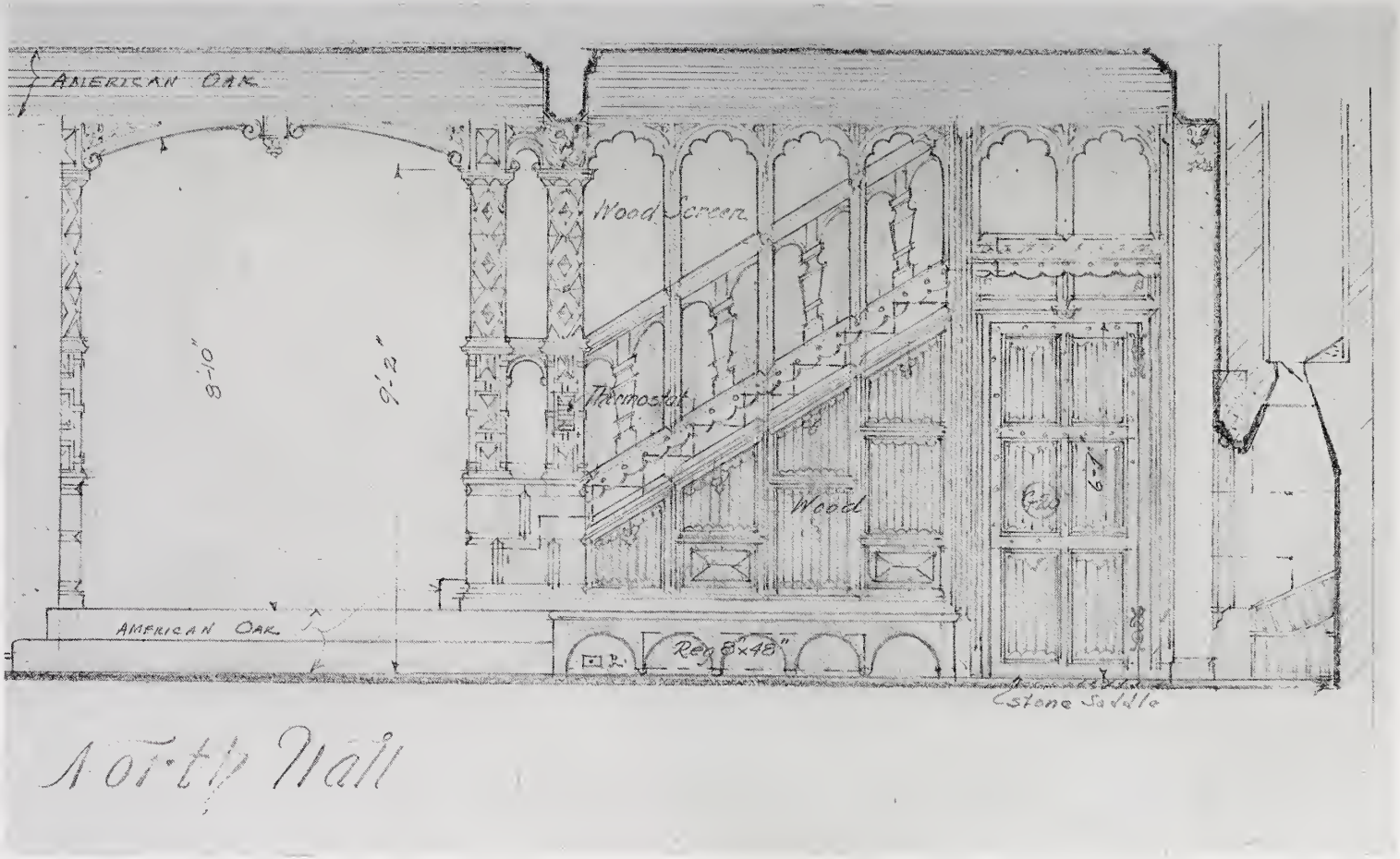
to measure up to the artificial standards of display and ostentation that falsified so much of our architecture.

But the Jacobean style is not without its pictorial elements. Its picturesque gables and clustered chimneys, its balustrades and quoins and ornamental entrances, and above all its groups of home-like leaded casement windows, make a brave looking exterior: though a very quiet and domestic one, to be sure, compared with the profuse exuberance of carving which characterizes the extreme Beaux Arts variety of Modern French city house.

In view of all the stylistic experimentation there has been in city house architecture, the Lamont house holds, perhaps, a very special significance—a meaning which may become more fully understood a few years from now. Turning points are very seldom recognized as such until some time after the turn has been made. In 1940, perhaps, some critic may say "A new kind of sanity appeared in city house architecture about 1922. The Lamont house on 70th Street, just east of Park Avenue, in New York, was one of the first examples of the large city house to express sincere architectural convictions and a fundamental architectural worth rather than the mere *money* it cost to build."

The Lamont house means more than simply a fine architectural solution of a problem wherein many architects have failed to distinguish themselves. From the strictly architectural point of view this tall house of many leaded windows speaks for itself. It has all the easy informality of a pleasant country house with the dignity and conformity that a city environment imposes. Outside and in it is genuine, sincere and unaffected.

The garden wall, with its door, the cloister and planted space within, the great cleft between the two main gables, and the picturesque profile of these gables



DETAIL OF SCREEN IN HALL—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
WALKER & GILLETTE, ARCHITECTS.



LIVING ROOM—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.

against the sky, all combine to effect a city house which looks like a dwelling rather than a private museum or the establishment of an exclusive couturier. Lack of this expression and of any sense of domesticity, has left most of our large city houses meaningless. The greater number are encyclopaedias of architectural forms—consoles, cartouches, keystones and so forth, composed and arranged with varying degrees of skill.

The Lamont house accomplishes far more. Besides being an unusually fine rendering of the style, it is an unusually fine expression of a dwelling. The exterior shows detailed enrichment only where it is logically and stylistically proper. The entrance has all the elaboration dear to the heart of the Jacobean carver, and the exterior detail is confined to the vigorous mouldings of the period, in mullioned windows, string courses and copings and in a series of grotesque bosses in the principal course. Several of these are specially illustrated from the scale and full size details. Another scale detail shows one of the clustered chimneys, which are made of special hand-cut brick and studied for true conformity with the style of the house.

Within is apparent the same studious attention to the spirit of the style, the same vigorous, expressive manner of handling the detail. Several drawings, both of full size and of scale details, are reproduced, giving some suggestion of the thoroughness with which the entire house was done. And these are not "tight," academic, school-book details, but details full of spontaneity and spirit.

A scale detail shows the original scheme for the oak screen behind which the stairs ascend. Before this was executed, an antique screen was found in England, and as it proved to be exactly fitted to the requirement, it was used.



DINING ROOM—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.

The new woodwork was blended with this with consummate skill—not a "modern antique" piece of work, but one in which the actual *feeling* of the old Jacobean woodwork was re-created. The same manner of carving, the mark of the tool, the softened profiles—all the charm and interest of the woodwork of the period was conveyed in the details and carried into the actual execution of the work. Other interesting details are reproduced to show the woodwork of the stairs, which are highly picturesque at every turn.

The entrance hall with its flagged floor is one of the first things about the house to suggest the unaffected domesticity of a country home. At one end a simple Tudor fireplace, at the other, tall, mullioned casement windows and an unexpected alcove, opening off to the front of the house, with more leaded windows.

The same rugged simplicity that characterizes the woodwork in the hall and elsewhere, is seen in the plasterwork, of which several details are illustrated. On one drawing a notation describes the over-door decoration in plaster as consisting of "Three Virtues and Simple Looking Graces"—a legend certainly no less quaint and naïve than the work itself.

The only conspicuous departure from the Jacobean style (other than the treatment of the solarium at the top of the house) occurs in the dining room, which opens from the entrance hall. Here is a very assured rendering of the Queen Anne interior, an interesting feature of which is the introduction in the ceiling of two large concentric sinkages, of characteristic contour.

The living room, one flight up, is a large and stately interior, refreshingly simple, dignified and livable. It is flooded with light from tall, leaded windows on



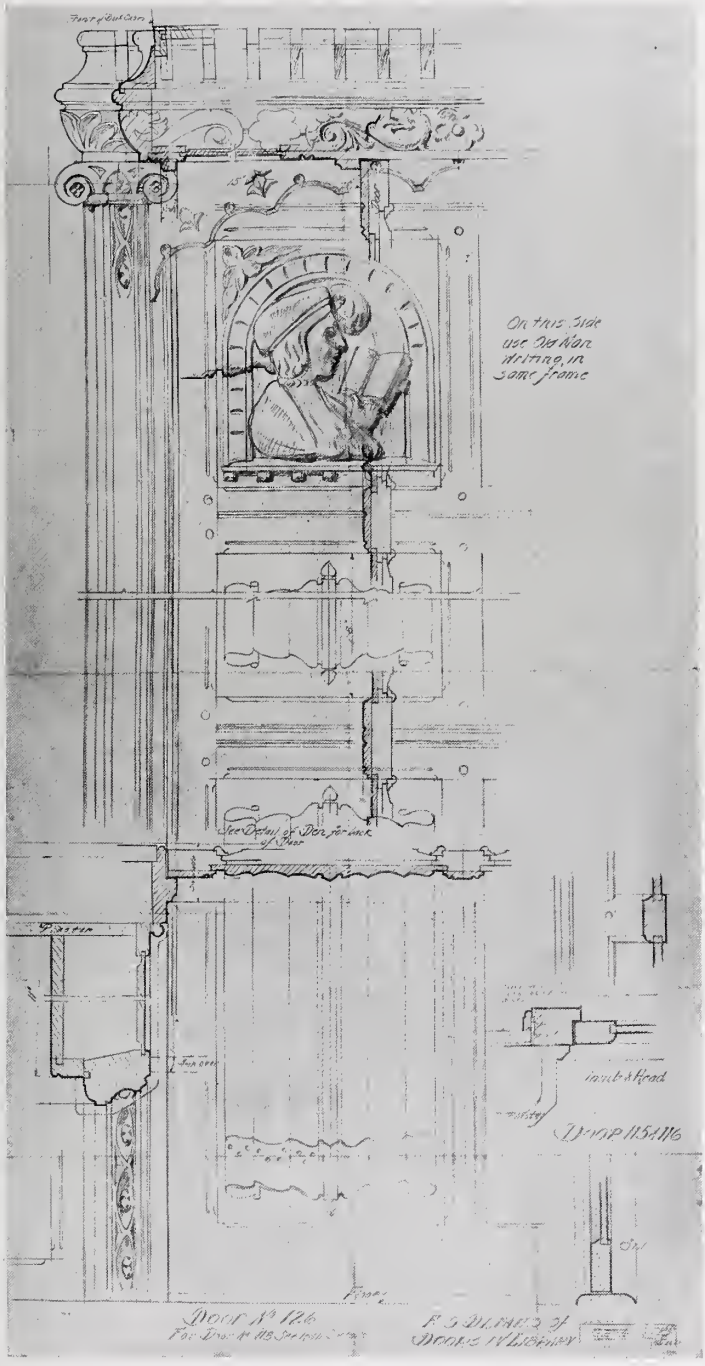
LIBRARY—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.

two sides. The furniture is well chosen, and well set off by the plain walls of gray plaster. In comparison with the ornate, over-decorated and over-furnished "drawing rooms" of many earlier city houses, this great quiet interior seems to suggest a distinctly new way of doing things in large houses. The architects believe—very rightly—that fine furniture and tapestries look better against a simple architectural background. Let the windows, the doorways, and the mantel piece (an antique in this room) supply the necessary interest.

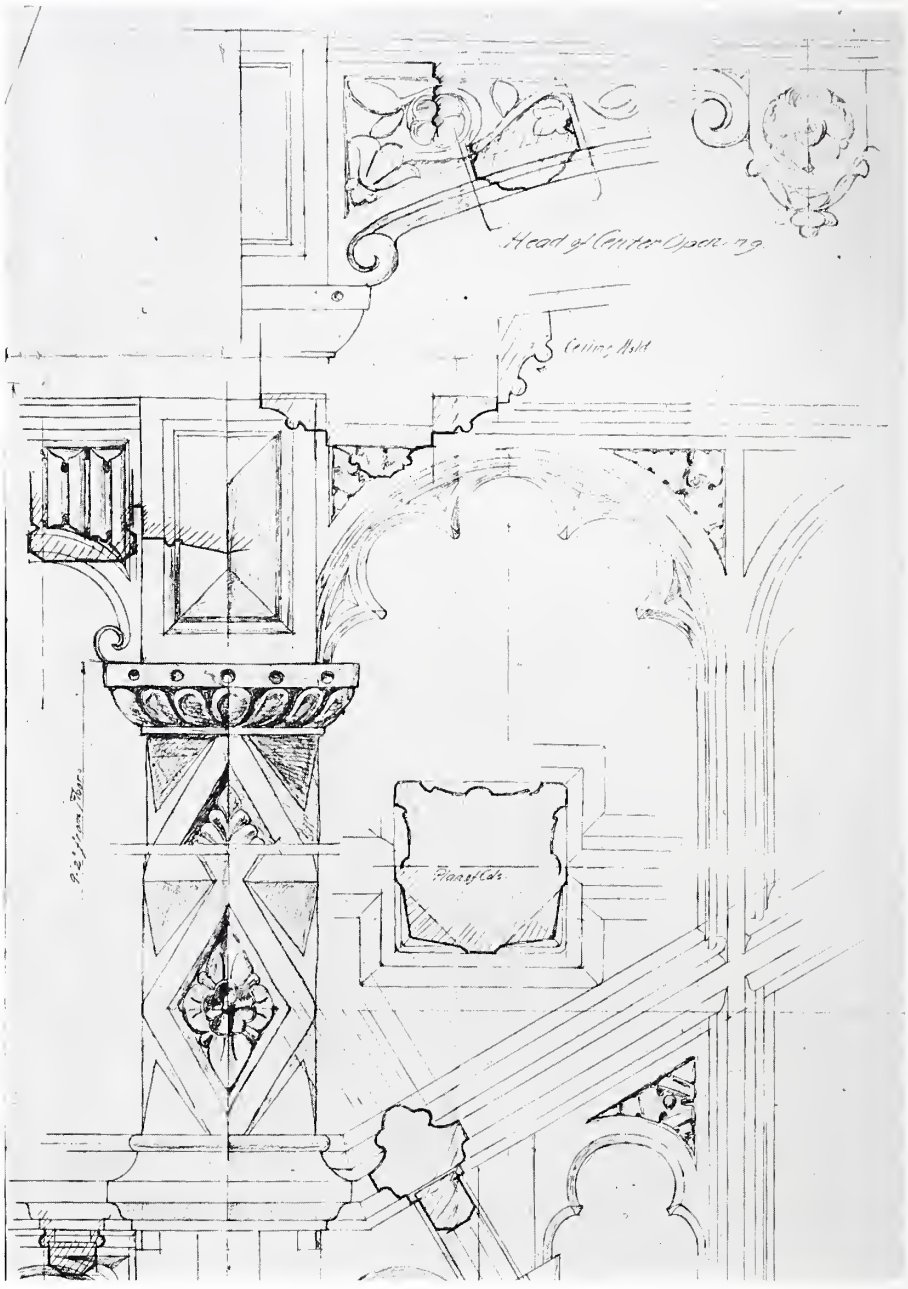
The library is of the utmost distinction and fineness. Panelled entirely in oak, wrought with the same highly sympathetic craftsmanship as in the hall, its light comes from leaded casements which look down into the garden. The mantel is an antique of excellently appropriate scale and great charm of detail, and the whole room is one of the most successful of its kind of any in this country.

A detailed discussion of each room would accomplish little in comparison with a concluding estimate of the significance of the Lamont house as a whole. It is a house of sincerity not only as a purely architectural expression, but as an expression of a new ideal in the whole conception of the large city house.

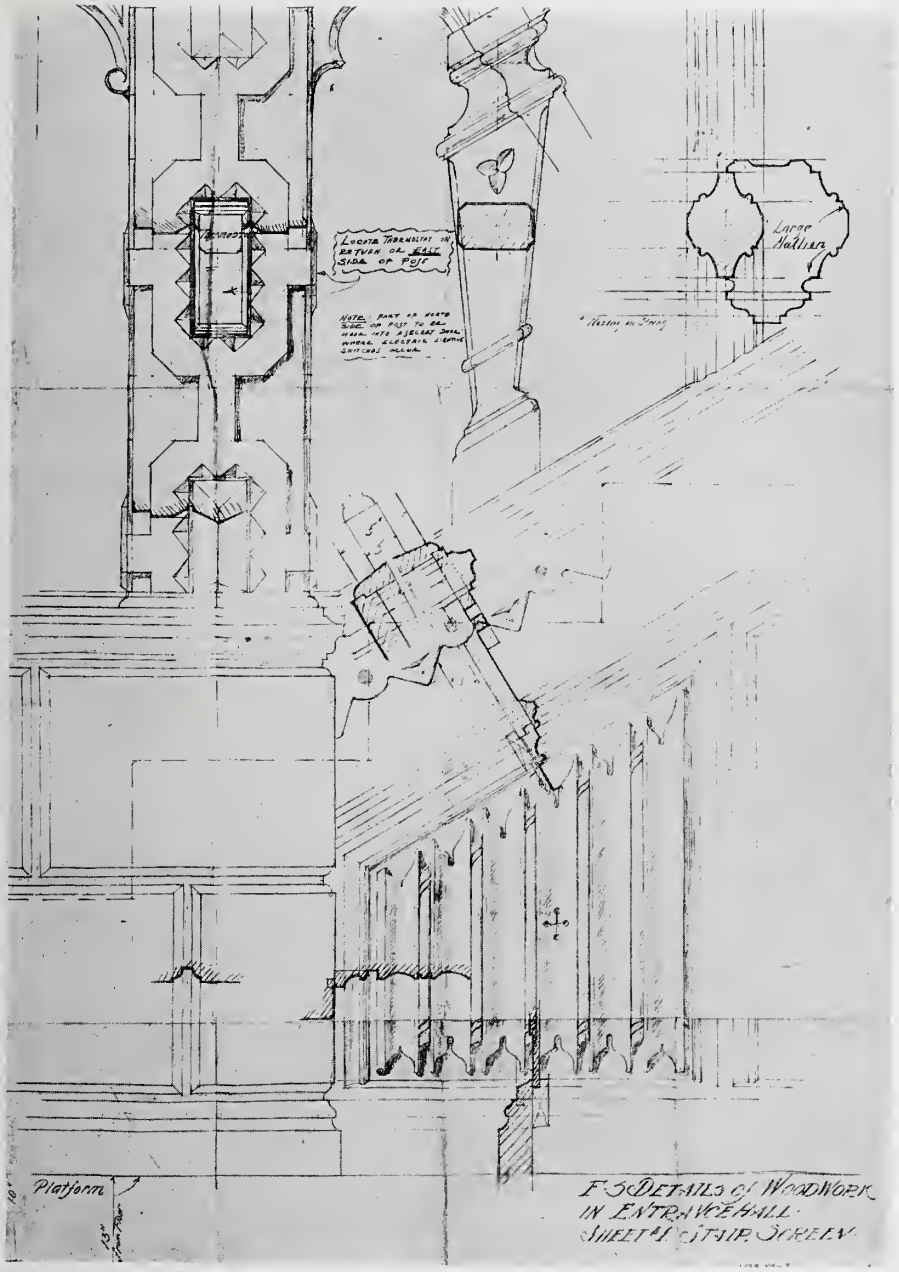
Surely changed conditions in the whole world and in our own country have changed many old valuations—eliminated some and created others. Although not everywhere apparent, there is a great swing toward a new simplicity and away from the old artificiality. The "show place," whether in the city or the country, has caused many a patronizing smile from critical European visitors, and has created much of the European conviction that we are a nation of *nouveaux riches,* who must proclaim in our houses every dollar of expenditure as plainly as possible short of framing the actual contract



DETAIL OF LIBRARY DOOR—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



DETAIL OF WOODWORK IN ENTRANCE HALL (UPPER HALF OF DRAWING)—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



DETAIL OF WOODWORK IN ENTRANCE HALL (LOWER HALF OF DRAWING)—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



LIVING ROOM DOOR—RESIDENCE OF THOMAS W. LAMONT, ESQ.,
NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.



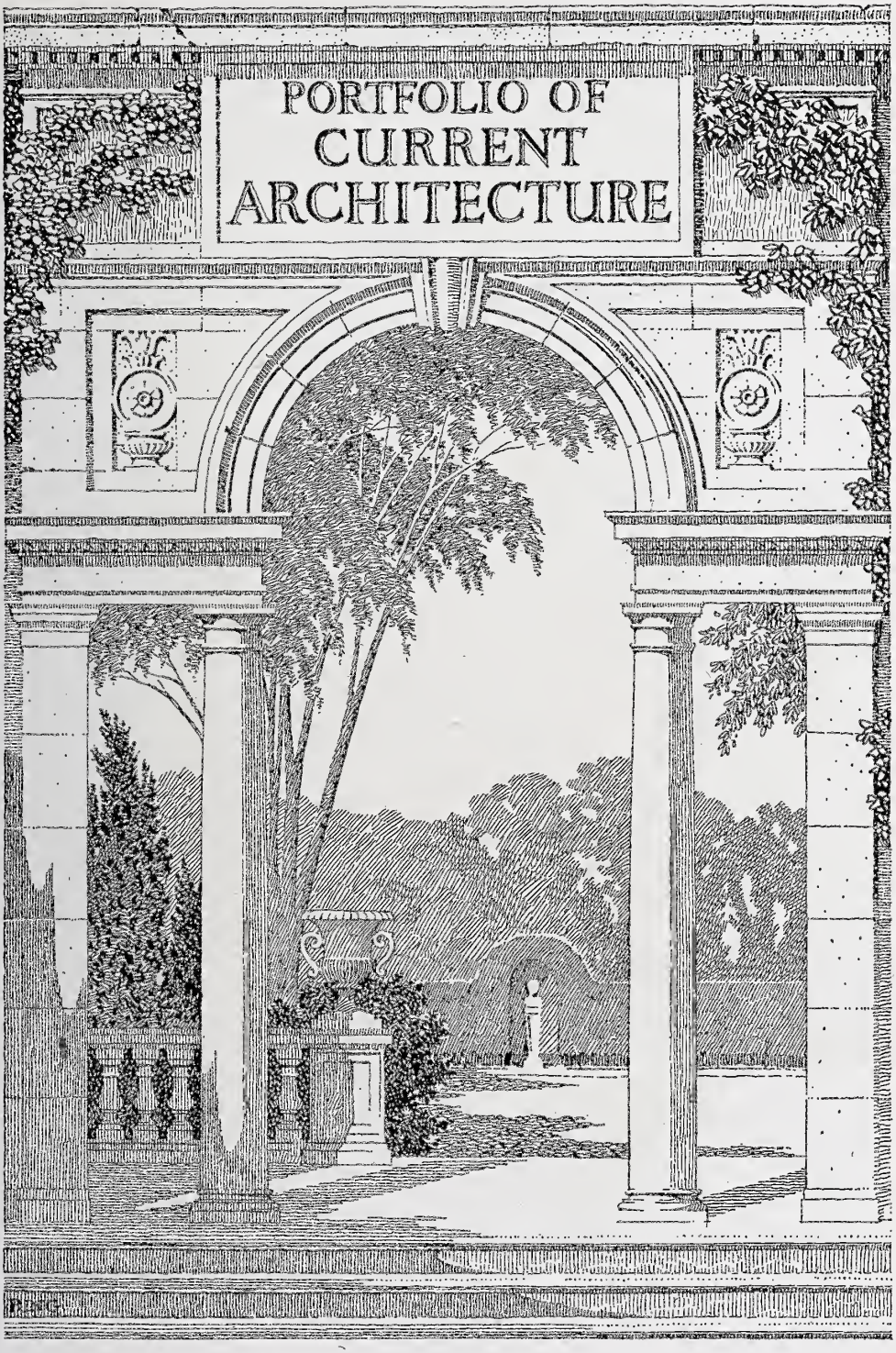
LIBRARY MANTEL—RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY. WALKER & GILLETTE, ARCHITECTS.

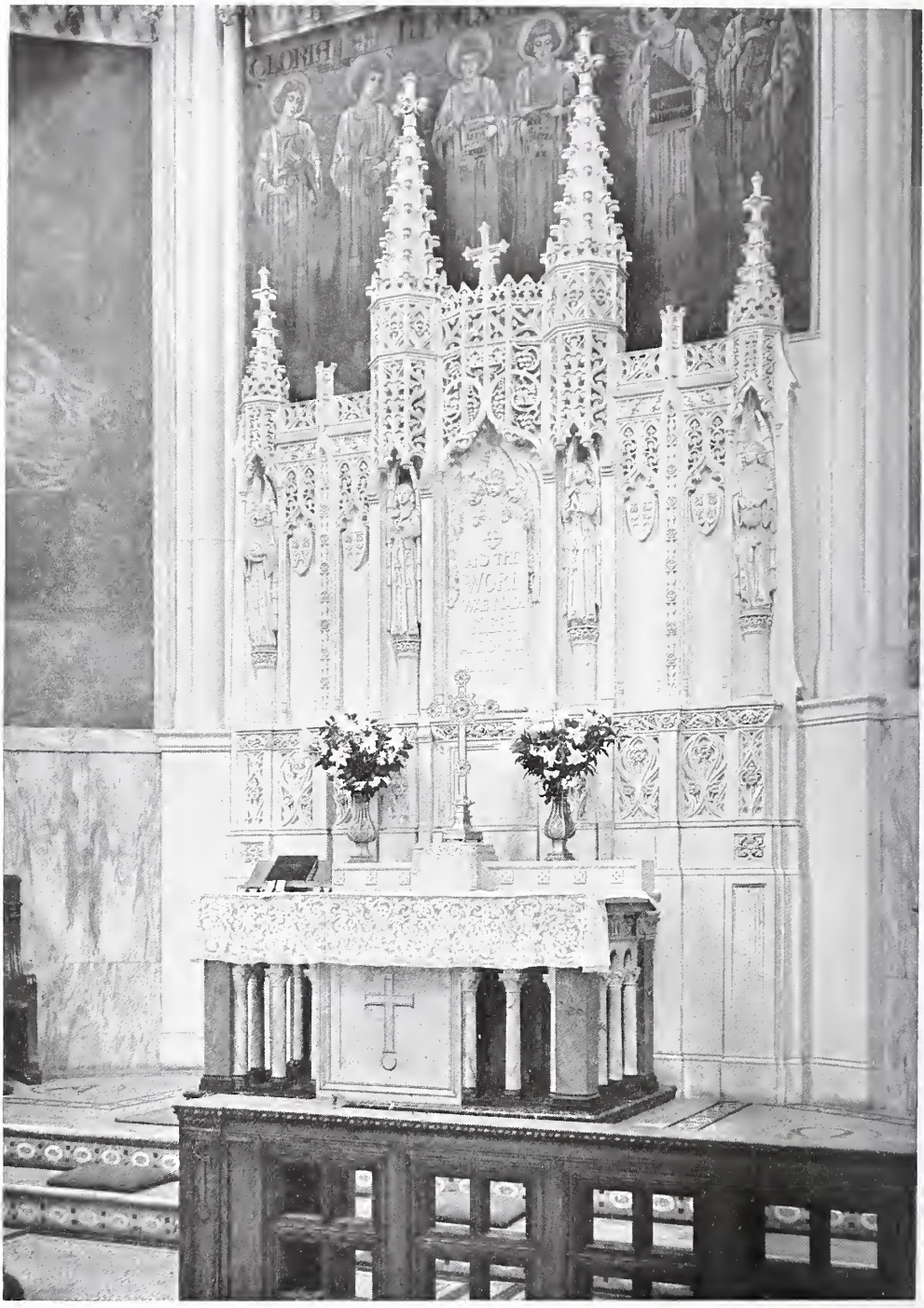
price and hanging it over the mantel piece.

The "show place" of a few years ago is passing. It will reappear, inevitably and always, but is it still the ideal? Do our most intelligent and cultivated people feel that their social and financial position compel them to live amidst polished marble, ornate bronze, gilded plaster and potted palms? Even in Europe, where these trappings once typified the grandeur of an old regime, new ideals of simplicity and good taste are asserting themselves. In this country, where "the grand manner" could never be anything but an affectation, let us hope that it will not take us a generation to see the permanent and intrinsic worth of such an architectural expression as this fine, tall-gabled house in New York.



RESIDENCE OF THOMAS W. LAMONT, ESQ., NEW YORK CITY.
Walker & Gillette, Architects.


PORTFOLIO OF
CURRENT
ARCHITECTURE



ALTAR AND REREDOS—CHAPEL OF THE INCARNATION,
NEW YORK CITY. HENRY VAUGHN, ARCHITECT.



HELPERS OF THE HOLY SOULS
BUILDING, NEW YORK CITY.
MAGINNIS & WALSH, ARCHITECTS.



CHAPEL OF THE HELPERS OF THE HOLY SOULS, NEW YORK CITY. MAGINNIS & WALSH, ARCHITECTS.



THE JONES-RUSSELL COMPANY FLOWER STORE, IN HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT OF BUILDING. CARL W. BROEMEL, DESIGNER OF STORE INTERIOR.



STAIRWAY — THE JONES-RUSSELL COMPANY FLOWER STORE, IN HANNA BUILDING, CLEVELAND, OHIO.
CHARLES A. PLATT, ARCHITECT OF BUILDING.
CARL W. BROEMEL, DESIGNER OF STORE INTERIOR



CASHIER'S DESK—THE JONES-RUSSELL COMPANY FLOWER STORE, IN HANNA BUILDING, CLEVELAND, OHIO.
CHARLES A. PLATT, ARCHITECT OF BUILDING.
CARL W. BROEMEL, DESIGNER OF STORE INTERIOR.



THE JONES-RUSSELL COMPANY FLOWER STORE, IN HANNA BUILDING, CLEVELAND, OHIO. CHARLES A. PLATT, ARCHITECT OF BUILDING. CARL W. BROEMEL, DESIGNER OF STORE INTERIOR.



DOORWAY—FARM GROUP—OYSTER BAY, LONG ISLAND, N. Y. ALFRED HOPKINS, ARCHITECT.



FARM GROUP—OYSTER BAY, LONG ISLAND, N. Y.
ALFRED HOPKINS, ARCHITECT.



COTTAGE—FARM GROUP, OYSTER BAY, LONG ISLAND, N. Y.
ALFRED HOPKINS, ARCHITECT.



NEW YORK EXCHANGE FOR WOMEN'S WORK.
BUTLER & RODMAN, ARCHITECTS.



ENTRANCE DETAIL—NEW YORK EXCHANGE FOR WOMEN'S WORK. BUTLER & RODMAN, ARCHITECTS.



HOUSE OF MRS. WILLIAM K. RYAN, HAVERFORD, PA.
Emil H. Kleeman, Architect.



HOUSE OF MRS. WILLIAM K. RYAN, HAVERFORD, PA.
Emil H. Kleeman, Architect.



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Emil H. Kleeman, Architect.



HOUSE OF MRS. WILLIAM K. RYAN, HAVERFORD, PA.
Emil H. Kleeman, Architect.



GARAGE—HOUSE OF MRS. WILLIAM K. RYAN, HAVERFORD, PA.
Emil H. Kleeman, Architect.

TENDENCIES IN APARTMENT HOUSE DESIGN

Part IX—Enclosed Courtyard and "Studio" Apartments

By FRANK CHOUTEAU BROWN

HAVING now considered the various types of "Open Court" apartment groupings, there remain but two further classifications to be analyzed in this series. The first of these is the grouping around a "Closed Court," or a building arranged entirely around the four or more sides of a courtyard space. After that there will still remain to be discussed the problem of utilizing any one of the types of building we have been illustrating, on the lot of irregular shape and outline, in which group will be found a number of interesting and unusual examples.

The "Closed Court" type of structure will now be taken up, primarily because it is closest allied to the buildings we have recently shown, but also partly, at least, from the fact that it is generally to be used upon the same types of lots—rectangular in proportion, and about the same or a little larger in size. In other words, this type represents in most cases the next logical forward step when considering an appropriate and desirable kind of building to use in the development of the kind of lot next larger in area and scale of operation.

As a whole, much the same considerations that have combined to direct the general plan of the individual apartments in the "Open Court" type, remain in effect with the "Closed Court" plan. This is certainly the case with the public circulation corridor and the matter of its effect upon any possible obtainable cross draught through the various rooms of the apartments. This matter now becomes even more serious, because the "closing in" of the courtyard does, in itself, much to prevent the free circulation of air—particularly if the court is rather small and restricted in size. And this is, of course, the constant tendency in any improvement of valuable city property, where the difficulty of obtaining lots of sufficiently large area to plan an apartment group upon any comprehensive and large scale is an obstacle constantly encountered.

It is, nevertheless, fairly well determined by the material found during the process of securing the illustrations and information for this series of articles, that a very considerable part of the apartment house development in this country for the next few years is likely to take a line of growth that will utilize the "Courtyard" idea, in some one of its many and various forms.

From what has already been seen of the application of this group-type to the apartment plan problem, it is sufficiently obvious that this type of group is especially applicable to individual apartments of a small number of rooms—two, three and four room units, particularly. It should be definitely apparent that the apartment of five and six rooms can be equally well worked into a plan of this same type, requiring only a possible larger area of lot to become fully as effective and successful, from the point of view both of the occupying tenants, the realty operatives and the owner.

There is no bar to the utilization of the same arrangement of grouping, upon precisely the same identical scheme plan, if the "Duplex" type of arrangement is adopted. That is, each alternate floor plan for a four to six room apartment



FIG. 103. GENERAL VIEW—APARTMENT BUILDING AT 305 WEST 45TH STREET, NEW YORK CITY.
Evarts Tracy, Architect.

could be very nearly identical with the plan of the living room floor of an eight to twelve room "Duplex"—the sleeping room floor being an easily invented and similar arrangement.

There is nothing to prevent this type of group plan being worked out to suit the convenient arrangement of apartments of this same or larger size, even with rooms all placed upon the one floor, although it has not yet been the fortune of this investigator to find such a type of acceptable plan that could be used here for purposes of proof and illustration. Nevertheless, attempts at such plans have been made in the past, and will undoubtedly be made again, and perhaps with better success. One such plan of this type was actually built a number of years ago in Boston, and was far from unsuccessful, even at that time. And this, too, despite a still somewhat undeveloped idea of the modern aspects of the apartment house problem. This type of plan arrangement is indicated in key form in one of the illustrations in this article (Fig. 105). The exact plan is not reproduced. It was too large and complex in detail to reduce successfully to a small size, and in redrawing it to indicate its essential idea the opportunity to both simplify and modernize the scheme has been undertaken, in order that it might the better serve to illustrate the present and future possibilities of this type.

But even here the plan is essentially one that cannot be employed for more than two apartments to the floor—the sort of plan that was also illustrated in Fig. 90, last month. It is more than probable, in the judgment of some of those who have given most study to the subject, that the next few years will see many more large apartments to the floor, grouped around one or more courtyards, in structures still larger and more distinctly urban and expensive in type.

Meanwhile we must continue to trace and illustrate the growth of the "Courtyard" idea, in larger aggregations of in-



FIG. 104. DETAIL OF DOORWAY—APARTMENT BUILDING AT 305 WEST 45TH STREET, NEW YORK CITY. EVARTS TRACY, ARCHITECT.

dividual apartments of small size, clustered around a completely enclosed central court, continuing from the point where the subject was dropped last month.

In that connection we will have to do with apartments of four rooms or less, and will turn at once to a definite illustration in New York City, an example that was also recently the recipient of a prize from the profession. This example is the better suited to our purpose, as it is a problem very nearly parallel to the example of a "double open court" plan, given the prize last year in the same city, which we illustrated in last December's issue (as Figs. 74 and 75).

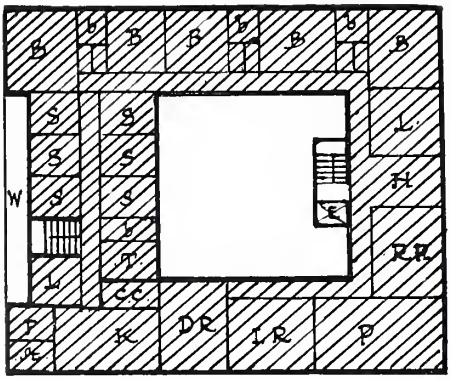


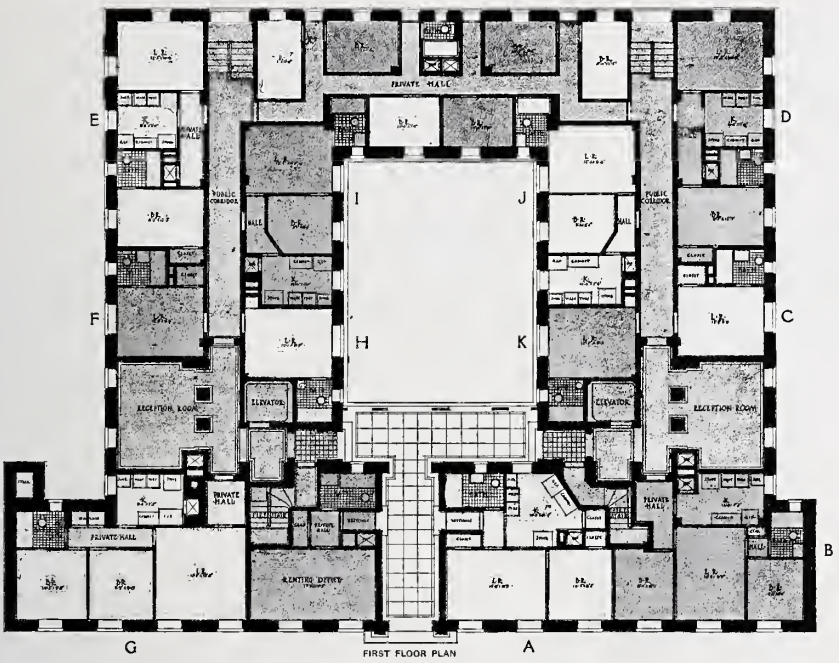
Fig. 105. Key Floor Plan—One Large Apartment to the Floor, Built Around a Central Courtyard.

This structure, where a similar class of small apartment is shown adapted to a "closed Courtyard" type, is illustrated this month as Figs. 103, 104 and 106, the latter being the plan, that may with interest be compared to the other plan, Fig. 75, printed last December. The plot of land is entirely different. It is now an "inside lot," of approximately square proportions, about one hundred and fifteen feet to one hundred and twenty feet front and the usual one hundred feet depth. (These figures refer, as usual, to that portion of the lot covered in whole or in part by the structure itself.) Upon this area is shown a nearly square floor plan containing fourteen apartments—three of four rooms, nine of three rooms, and two of one room, and baths. Of the three and four room apartments, two rooms are always the kitchen and living room—the other one or two rooms being bedrooms—and all these rooms are of more than comfortable size, although not as large in each case as in the more recent plan shown in Fig. 75.

The enclosed courtyard is about twenty-seven or twenty-eight feet wide by forty-six feet long, and none too large for the purpose, in any event. This central court is, however, supplemented by two long and narrow courtyards, on either side of the building, extending from just back of the front range of the structure through to the rear, being open at that end. Across the front and rear ranges of the plan, the apartments extend entirely through the structure, from the court to the outside frontage, so as to obtain good cross draught for the occupants. The public corridors extend from front to back, down the two side wings, enclosed in a middle position, with apartments opening out on both the center and the side courts. These apartments, therefore, cannot benefit by direct cross draught. If obtainable at all in warm weather, it is only secured in an indirect manner, across or through the public corridor.

This corridor connects two public staircases, one at the front, the other at the rear end; there are also elevators at the front end of each corridor—which are not connected across the width of the building, except on the entrance floor.

This building will serve as an excellent example of the simplest and most direct type of "completely enclosed" courtyard apartment group plan, and the different apartment units themselves are equally simple in their arrangement. It will also serve to illustrate at once the benefits and defects of the type scheme. So far as these are associated with the employment of the enclosed central courtyard itself, it requires no actual occupancy of such an apartment to realize that the width of the courtyard is not really sufficient to provide the occupants of the apartments on either side with a desirable degree of privacy, especially in warm summer weather. The height of the building also, a mere matter of six stories, at least as



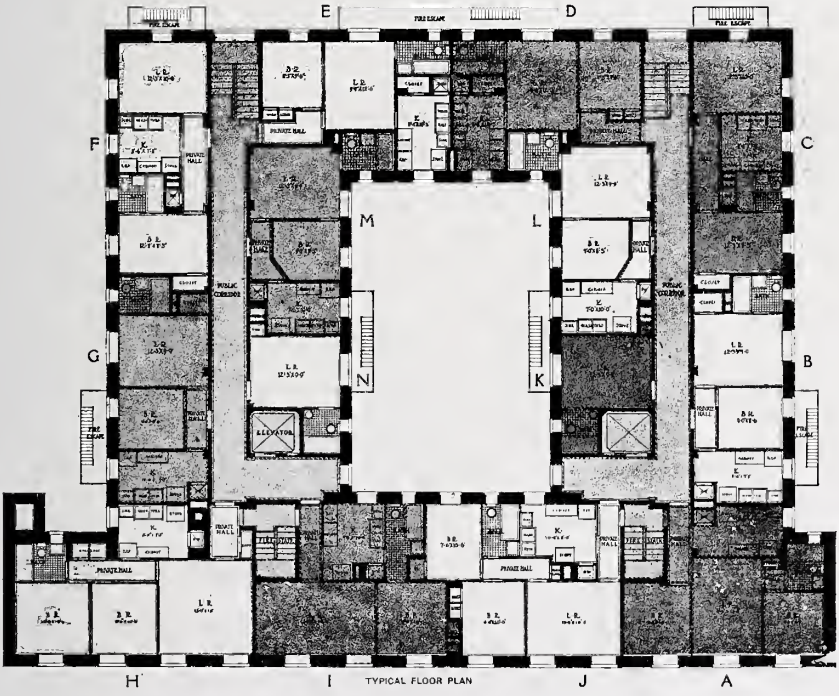


FIG. 106. FIRST AND TYPICAL FLOOR PLANS—APARTMENT BUILDING AT 305 WEST 45TH STREET, NEW YORK CITY. EVARTS TRACY, ARCHITECT.

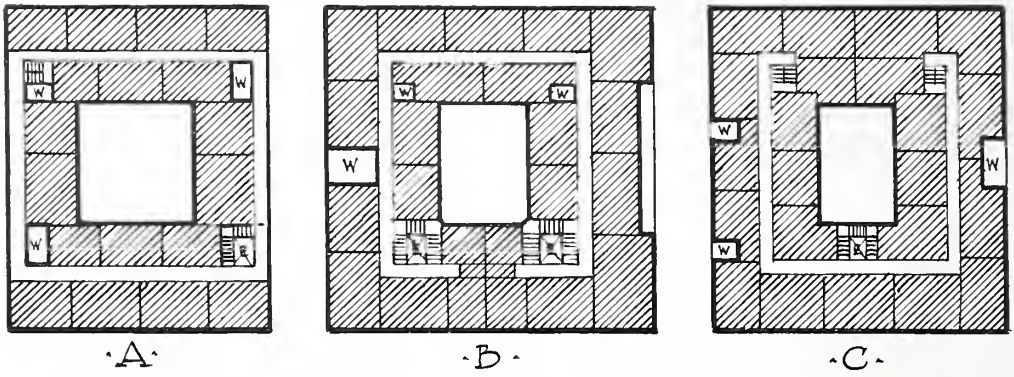


FIG. 107. VARIANTS OF TYPICAL "ENCLOSED COURTYARD" APARTMENT PLANS, SHOWING DIFFERENTLY LOCATED HALLWAYS AND CORRIDORS, WITH SECONDARY LIGHT WELLS.

low as would be humanly reasonable in a city like New York, with its crowded and expensive realty holdings, while quite to be expected under the circumstances, is yet still too high to surround a courtyard so small, and allow the occupants of the lower stories to obtain much benefit from actual sunlight, or—in the warmer weather—from sufficient ventilation, when their rooms open only from the court itself.

The obvious answer is that the land area should be larger for a building of this type, or the plan should only attempt to incorporate a *single* row of apartments in the side wings, opening them from the court, and allow the corridor to run down the extreme side lines of the property (as at A in Fig. 107), thus at once enlarging the central court and reducing the number of possible apartments, as well as the available income from the property development. An alternative, of course, would be to divide the plan into separate units of three or four apartments each, and provide each unit with its separate main staircase and elevator, thus avoiding altogether the public circulation corridor, otherwise necessary around structure on each floor.

It is also apparent that a lower height—say four stories—would help, and as the height of such a building increases above this minimum, the courtyard should also be widened and enlarged, until on a crowded city lot it would soon reach the point where it would come through the width of the structure, on one side or other, and so would automatically transform the plan into an "Open Court" type.

Nevertheless, as a matter of fact, the majority of plans of this kind undertaken in our larger cities have to do with inside lots of no larger area than this, and often of a somewhat smaller frontage. Wherever a larger width has been obtained, advantage has almost always at once been taken of that added width to widen the arms of the structure, and use a central corridor with apartments opening out on either side. The connecting public corridor is generally continued entirely around, or at least upon three sides of the courtyard, so as to enable one principal elevator to serve the entire building, as at B or C in Fig. 107. Some of the general possibilities of the usual variations found in corridor

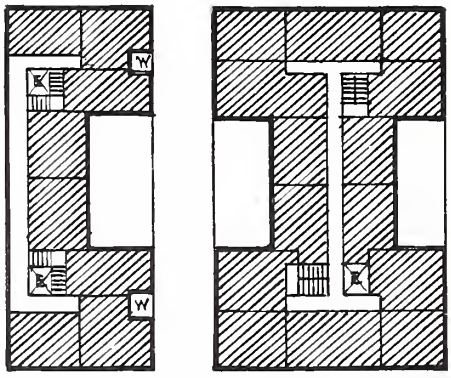


FIG. 108. TYPICAL "ENCLOSED COURTYARD" PLANS—"REVERSED" AND "HALVED"

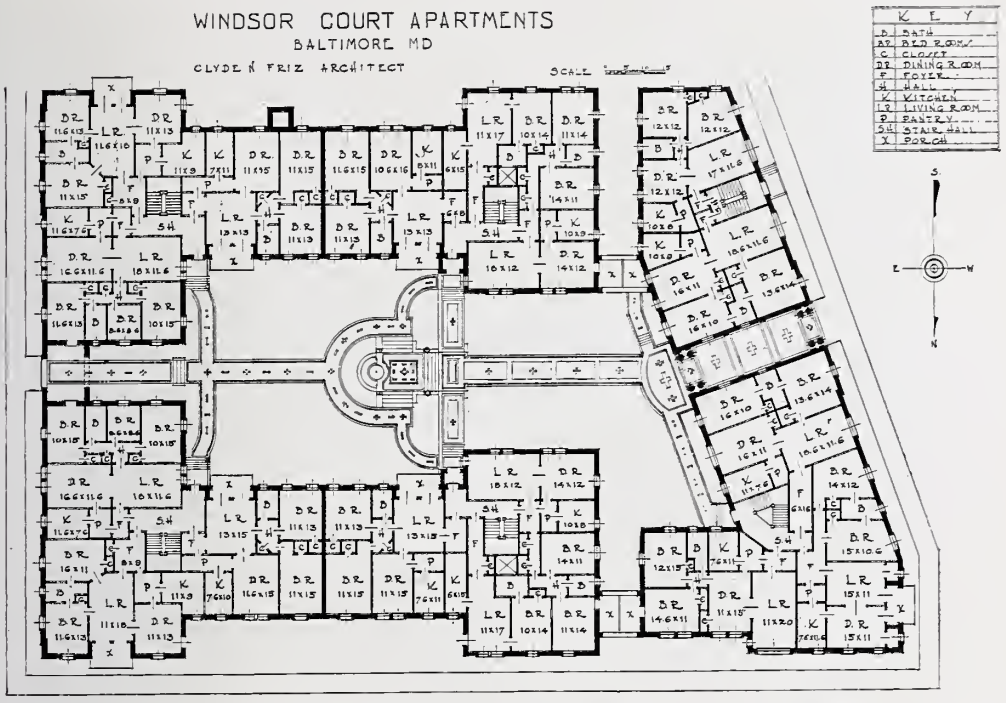


FIG. 109. TYPICAL FLOOR PLAN OF WINDSOR COURT APARTMENTS. WALBROOK, BALTIMORE, MD.
Clyde N. Friz, Architect.

dispositions and locations are shown in these key plans of this example.

These key plans are merely suggestive of the possible general dispositions of parts in structures of the kind now being discussed. The room unit is indicated—often is only a one or two-room and bath or kitchenette unit—sometimes it totals three rooms in all. In B and C the right and left hand portions show possible alternate arrangements of the light wells ("W") necessary to ventilate bath room or kitchenette stacks. In "B" the corridor at the front is shown as sometimes continued around the entire floor, sometimes as interrupted at this place, especially where two elevators ("E") are installed.

The next illustration, Fig. 108, also contains two sketches, showing the possibilities of these same types "reversed," or as they might be used on a narrower lot (A), in a half-plan, as it were.

The plan, B, indicates a similar arrangement, with corridor in center and two "half-courts," one on either side, to go on a lot of double width; but one still narrower than would be necessary to take the plan with a central courtyard, such as is shown in Fig. 106, for instance, and for the same reasons as we have already discussed in this series last January, in regard to the "Open Courtyard" type, when "reversed" or "halved" to go up on a narrow lot.

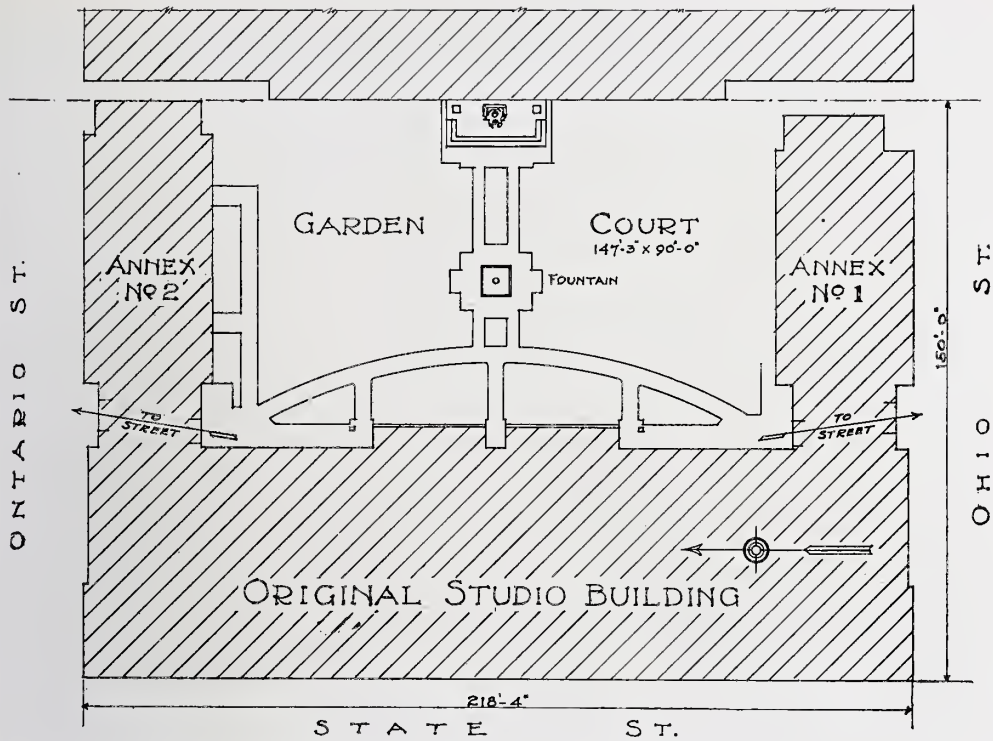
Another suggestive and valuable plan, in a form of development adapted to suit a more urban location and a somewhat better class of tenants, is to be found in Fig. 109. This group arrangement is interesting for several reasons. It is, in the first place, easily discernible that the whole composition is here a "grouping of groups," being actually composed of three main groups, each comprising two minor groups, each with its staircase as a central feature. The "U" "Open Court" portion at the left is made up of two



FIG. 110. VIEW OF EXTERIOR—WINDSOR COURT APARTMENTS, WALBROOK, BALTIMORE, MD.
Clyde N. Friz, Architect.



FIG. 111. VIEW IN COURTYARD—WINDSOR COURT APARTMENTS, WALBROOK, BALTIMORE, MD.
Clyde N. Friz, Architect.



BLOCK PLAN OF TREE STUDIOS

WOLTERSDORF & BERNHARD-ARCHITECTS

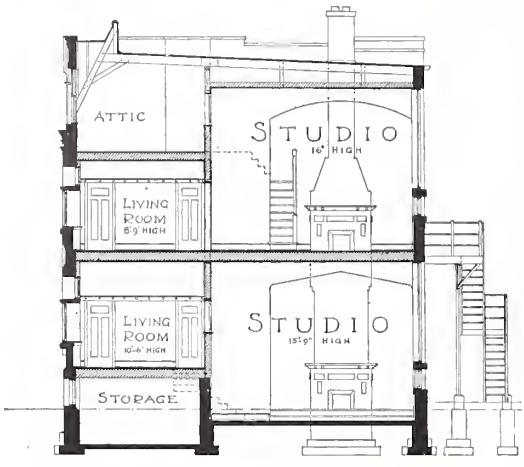
FIG. 112.

wings joined together by an arch at the center. The open end of this court is closed by another, almost separate, building, also connected to the wings by means of some open arcades (or actually "porches"), the whole making a plan of less regular outline than the previous example, yet so nearly rectangular as to be clearly comparable with it.

The whole area occupied by this structure is about one hundred and fifty feet wide by an average of two hundred feet long, the courtyard being about one hundred feet long, and either forty or fifty-five feet wide, depending upon whether the measurement is taken at the narrower or the wider location. This area is sufficiently spacious to meet all reasonable requirements for light and air for the inhabitants, because the building is mainly of only four stories height.

The floor plan here shown contains a total of seventeen apartments, one of six rooms, fourteen of five rooms, and two of three rooms, besides the baths. With the exception of the two apartments at the upper right hand corner of the plan, they are arranged in groups of three apartments around the main staircases that serve this smaller group-unit upon each floor. As in the previous example, no back or service staircases are provided, and the loss of space in hallways or corridors within the apartments is avoided by the very ingenious device of an inner or "bedroom" hall that opens from the further side of the living room and serves to connect with all the sleeping rooms and the bathroom.

These apartments are planned to meet a simple set of conditions in a suburban location at a low cost. In this connection the straightforward use of brickwork shown in the illustrations of the street front, and the single view of the courtyard (Figs. 110 and 111), is suggestive of a style of architectural treatment that would help in achieving this result, with-



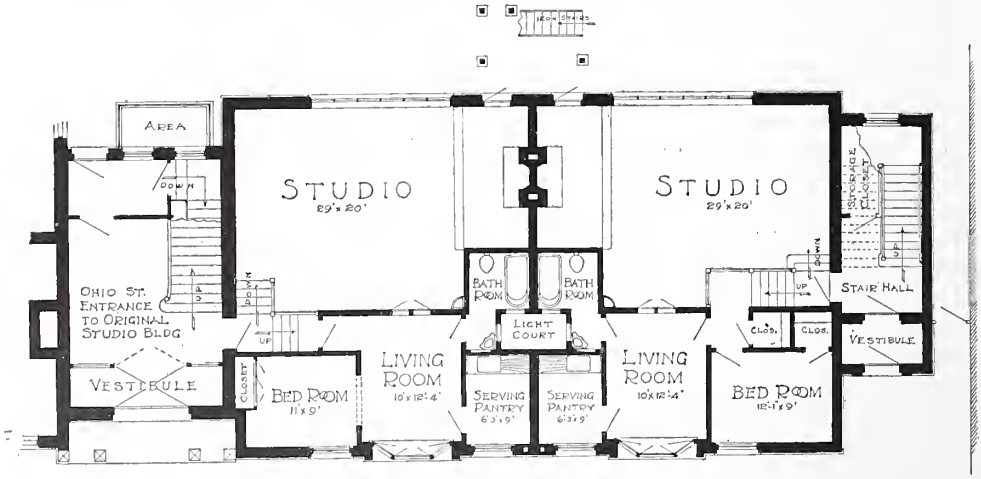
CROSS SECTION

FIG. 113. CROSS SECTION THROUGH ANNEX NO. 1, TREE STUDIOS.

out falling into the common error of the vulgar repetition of stock ornament so often the result of restriction in design. These photographs were taken before the building had had an opportunity to benefit from any growth in the planting.

The possible changes in this general type of apartment-plan arrangement that the immediate future may have in store for us, we can only surmise. It seems fairly certain that we may look forward to groups larger and more imposing than any we have yet had. The principle upon which this grouping of apartments within a plan outline is based, their arrangement *"en echelon,"* is certainly not new; even in its application to the problem of grouped housing it goes back three or four thousand years; and it was, in ancient times, employed more exclusively to meet the conditions of crowded city locations. We will probably find it again so employed, with modern refinements and developments to meet those differing conditions found to persist in the modern city, even when of the most crowded kind. And the single group of units will very probably (as we have seen in the last example) grow into a still greater grouping of larger units, until, under the ultimate fostering development of the zoning stimulations, that we are but now beginning to understand and apply to our growing American communities, we may find whole sections of our cities laid out according to some comprehensive and intelligently grouped arrangement of apartment units on those variations or the courtyard, or *"echelon,"* idea that will provide the best light, air, and outlook to a greater number of occupants.

In connection with this type of plan, we might as well give some passing consideration to the "Studio apartment," particularly as we can use an individual example to illustrate the gradual growth



FIRST STORY PLAN

FIG. 114. ANNEX NO. 1—TREE STUDIOS, CHICAGO, ILL.
Woltersdorf & Bernhard, Architects.



FIG. 115. STUDIO INTERIOR, SECOND FLOOR, ANNEX NO. 1, TREE STUDIOS, CHICAGO, ILL.
Woltersdorf & Bernhard, Architects.

of a structure to meet this courtyard type that we have been considering. There are two different kinds of Studio apartments, one being such a studio as a working artist would find convenient and practical; the other an arrangement such as someone playing at being an artist would consider attractively informal, artistically effective and unusual. To take up the first kind at once, we find in Chicago a Studio structure fronting on a street and backing on a garden running north and south, enlarged by the building of two new wings on the side streets so as gradually to enclose this garden. With a building already occupying the fourth side, we find that the whole group has come to conform to the kind of outline arrangement we have been considering (Fig. 112). The entire area of this lot of land being one hundred and fifty by two hundred and twenty feet, the courtyard is the unusual and ample size of about one hundred and fifty by ninety feet.

Fig. 114 shows the arrangement of the floor plan of the wing first built, a large studio, twenty by twenty-nine feet and sixteen feet high, with a bathroom, bedroom, living room and serving pantry. Fig. 115 shows an interior view of one of the upper studios, and Fig. 113 gives a section through the wing, indicating the variations utilized in the floor levels. The street exterior of this wing is shown in Fig. 116.

In the second addition that was made, some improvements on the earlier arrangement were worked out. These appear best in the drawings reproduced as Fig. 117. The studios have here been made a foot longer and a little more than a foot higher. The extra height has not only been of help to the artist occupant, but it has also enabled the architect to secure two complete, if low, stories in the

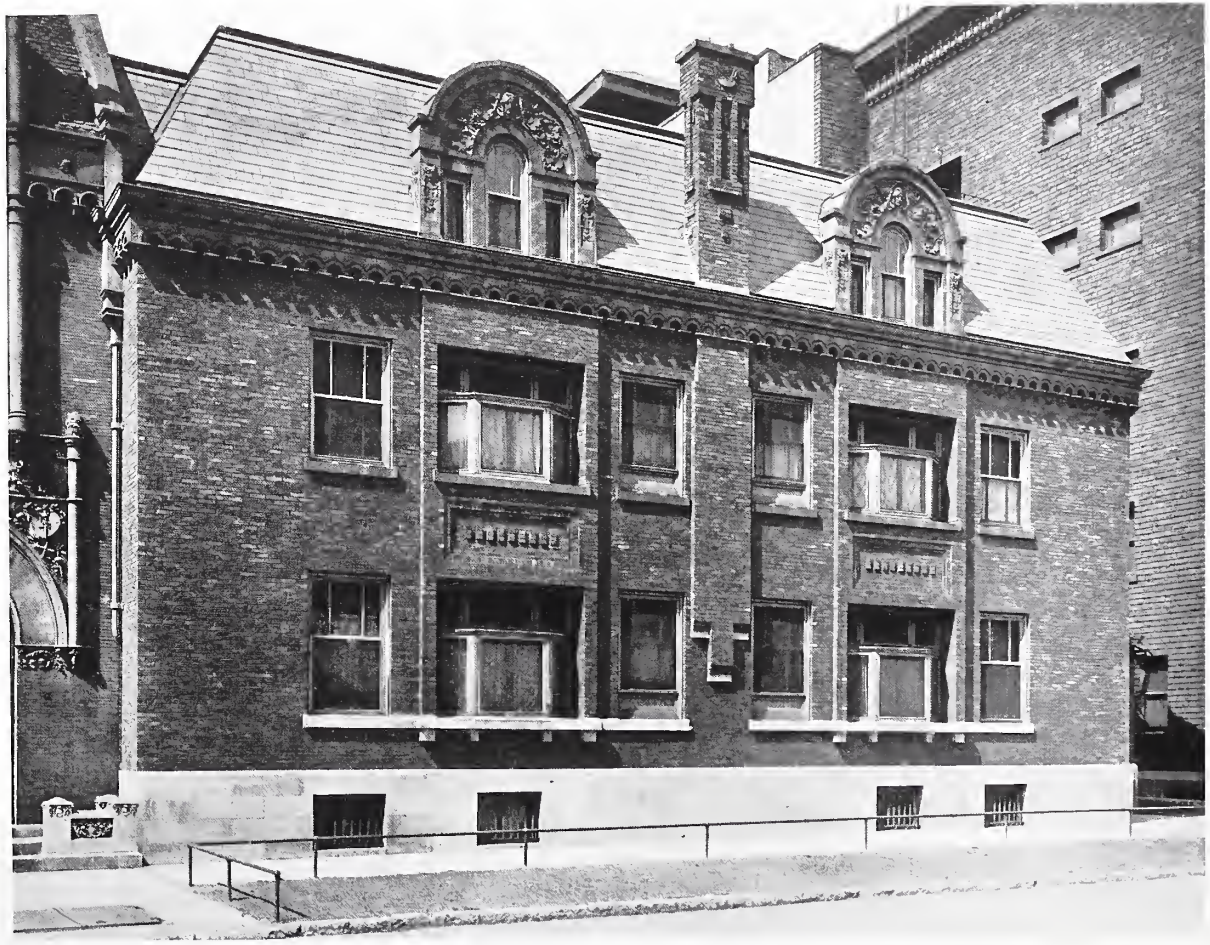
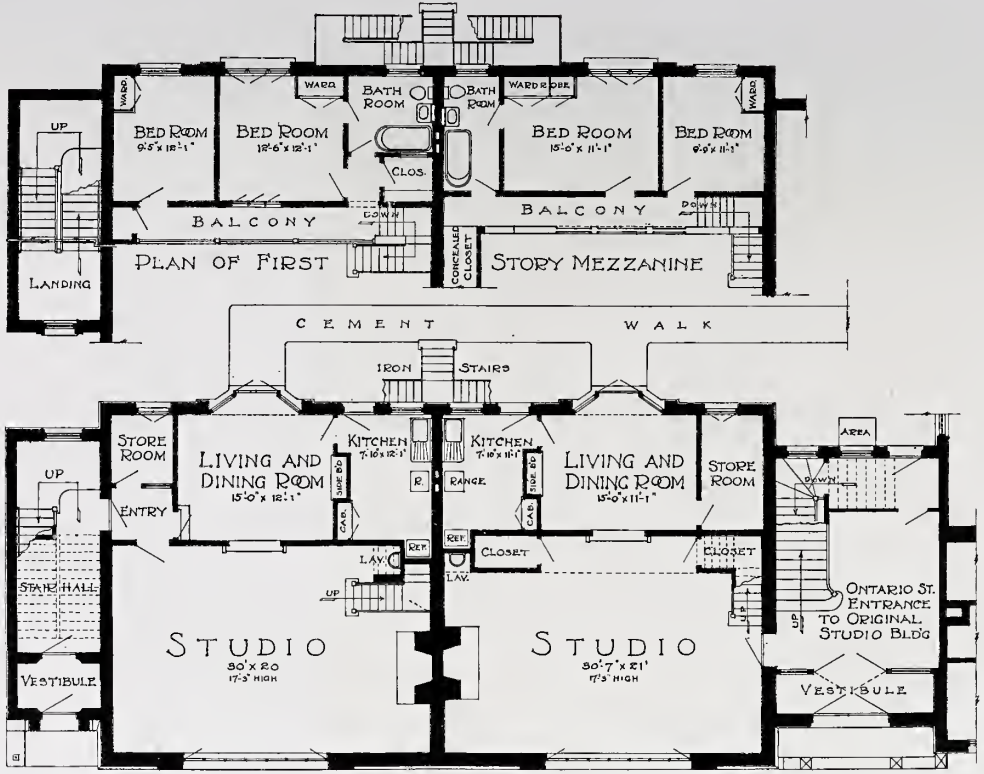
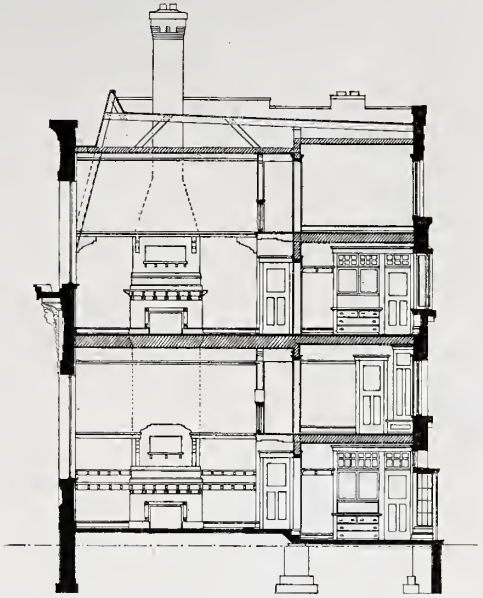


FIG. 116. OHIO STREET FRONT, ANNEX NO. 1, TREE STUDIOS, CHICAGO, ILL. WOLTERSDORF & BERNHARD, ARCHITECTS.



FIRST STORY PLAN



CROSS SECTION

TREE STUDIOS - CHICAGO - ANNEX № 2

WOLTERSDORF & BERNHARD - ARCHITECTS

FIG. 117. MAIN FLOOR AND MEZZANINE PLANS, WITH CROSS SECTION OF SECOND STUDIO WING, TREE STUDIOS, CHICAGO, ILL.



FIG. 118. ONTARIO STREET FRONT, ANNEX NO. 2, TREE STUDIOS, CHICAGO, ILL. WOLTERSDORF & BERNHARD, ARCHITECTS.



FIG. 119. THE COURT FRONT, ANNEX NO. 2, TREE STUDIOS, CHICAGO, ILL. WOLTERSDORF & BERNHARD, ARCHITECTS.



FIG. 120. STUDIO INTERIOR, ANNEX NO. 2, TREE STUDIOS, CHICAGO, ILL.
Woltersdorf & Bernhard, Architects.

living space at the south side of the studio. This space has been divided into a larger living room and kitchen, with a valuable storeroom on the level of the studio floor, while the space on the mezzanine level has been utilized to make two bedrooms and a bath, all opening from a balcony, and giving the interior appearance shown in Fig. 120. An unusual arrangement in these studios is the outside iron stairways and balconies that appear on the courtyard side, combining at once a fire escape and a separate outside entrance to the kitchen. The street front (north side) and courtyard elevations of this second wing both are shown in Figs. 118 and 119, respectively.

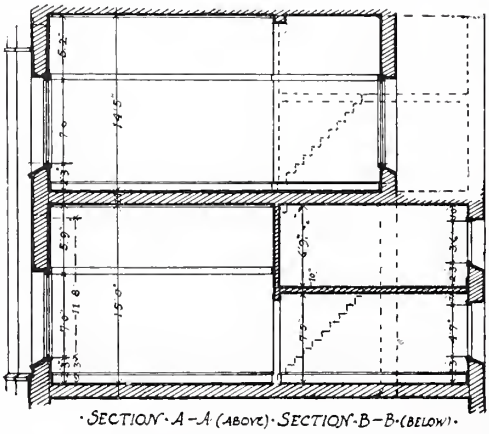


FIG. 121. CROSS SECTION THROUGH STUDIOS, 120 RIVERWAY, BOSTON, MASS.
William D. Austin, Architect.

A studio arrangement combining still further practical advantages for the working painter has been recently built in Boston, fronting upon a portion of the park system, the Riverway. This studio itself possesses still greater length, almost forty feet, with a working alcove to obtain southern light

(oftentimes quite as much needed by the artist as the colder north exposure). This building is four stories high (Fig. 123) on the front, and, taking into account the mezzanine stories really eight stories high on the rear. The section through the studios is given in Fig. 121, the lower portion showing a section on the line B-B, as it appears on the floor plan, Fig. 122, continuing through the two stories on the rear, and the upper portion gives a section through the studio alcove to the south, on the line marked A-A in Fig. 122.

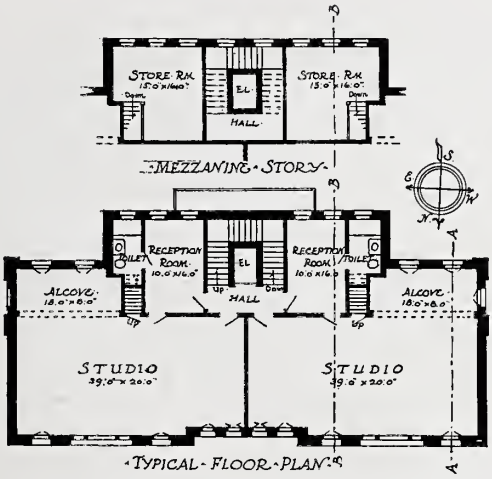


FIG. 122. STUDIO BUILDING, 120 RIVERWAY BOSTON, MASS. WILLIAM D. AUSTIN.

This example is offered as an ideal arrangement of working space for the painter or artist, and the fact that all the occupants of this building are well known artists, each of whom took an active hand in seeing that the building would provide them the best conveniences possible. is the best proof of its practicability and success. Either the reception room upon the main floor, or the room marked "store room" on the plan of the mezzanine in Fig. 122, was available as a bedroom, if the occupants so desired.

We have still to consider the "Studio-apartment" building of the type that has of late years been so successful and popular in New York, where the plan has only a remote relation to the demands of a possible artist occupant. In these, for his practical needs there have been substituted at least one room of imposing proportions, capable of being made pictorially interesting and picturesque by occupants possessing a sufficient amount of taste and the necessary theatrical properties required to obtain the desired effect. Oftentimes the "Studio" room of the apartment has been carried to two stories height, so as to obtain on a small amount of floor area, one very large living room, utilizing on the main floor level other space sufficient to provide an entry or small hall, and — generally—a reception room, with a staircase to the mezzanine over it. This staircase is either entirely separate from, or often becomes a part of, the picturesque accessories of the main "Studio" room, where its possibilities may be easily recognized by turning to Figs. 115 and 120. A room of this type will be obviously well adapted to suit other requirements—such as an ideal music room, for instance. In fact, there is every reason for the popularity and success of this kind of building. Usually, the second story space is utilized in providing two bedrooms and a bath.

Where dining facilities are included in the equipment of such an apartment, it is in the informal manner, an alcove in the large room suggesting an appropriate space for the table, and a small kitchenette, with closet or entry for icebox, supplying the remaining necessary conveniences. Apartments of this type, both larger and smaller than the unit here described, have been built in many sections of New York and in a few other North American cities. They are available to fit every purse, but by far the greater majority are of a cost that would much exceed the elasticity of the pocketbook of even the most successful artist-favorite in one of our wealthiest communities.

This type of building is represented in this series, however, by a single example, and that of the less extreme type. The plan, shown in Fig. 125, gives a typical floor arrangement of the "Studio apartment" building, where the whole apartment is confined to a single floor. In this particular case the plan is adapted to fit



FIG. 123. GENERAL EXTERIOR VIEW—STUDIO BUILDING, NO. 120 RIVERWAY, BOSTON, MASS.
William D. Austin, Architect.

what we have previously found to be a typical New York City corner lot, one of nearly square proportions, its greater length being upon the less expensive thoroughfare.

In general scheme it really consists of two separate buildings, each with a service and passenger elevator and a principal staircase, with a rear courtyard about twelve feet wide separating the two sections. The combined floor plans make four three-room apartments and three two-room apartments, all with their baths and working pantries or kitchenettes. The left-hand half of this plan is more entirely self-contained than the corner portion, but the necessary adjustments that might be made to adapt either portion to an inside or corner lot arrangement, where a smaller land area might be all that was obtainable, are obvious from any study of this floor arrangement. This one example, therefore, illustrates two, or possibly even three, different buildings such as might be undertaken on different sizes of lots and under different conditions that might arise to control their



NO. 124. NO. 100 CENTRAL PARK SOUTH, NEW YORK CITY.
SCHWARTZ & GROSS, ARCHITECTS.

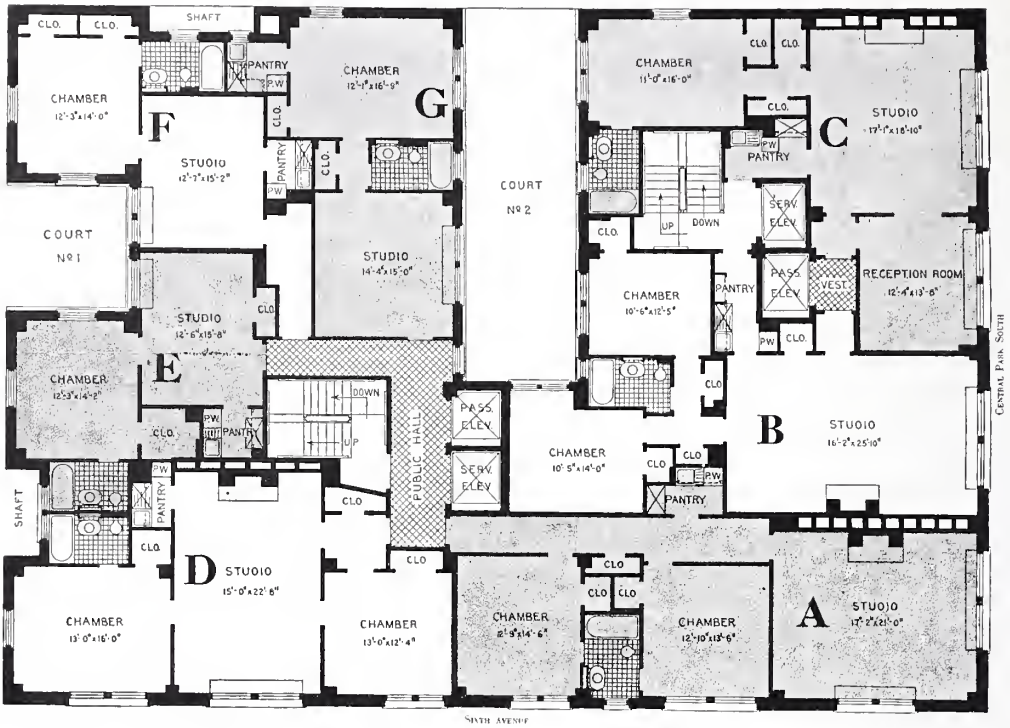


FIG. 125. NO. 100 CENTRAL PARK SOUTH, NEW YORK CITY.
Schwartz & Gross, Architects.

scheme-development in different American cities.

This genus also conforms to the same general conditions laid down as governing the apartment plan in earlier papers in this series. The smaller number of rooms makes the arrangement of the unit-apartment in itself simpler and easier to work out, with less possibility of waste space in private hallways. The two-story Studio room, where it is used, makes the problem at once similar to the "Duplex" type, on a small scale. It is also a unit easy of use when developing a lot of small area and more restricted outlook, while it serves to meet an active and popular demand in many of our larger cities, and brings back a good return upon the investment in nearly every case. For, as was earlier decided, two small apartments of this sort will bring in considerably more rental for the same amount of area than if it were all given to a single large apartment.

PARK ARCHITECTURE

BANDSTANDS



By Horace W. Peaslee

Is it worth while to include bandstands in the same class as field houses or refectories in an investigation of park utilities? San Francisco has a bandstand that cost a hundred thousand dollars, and accordingly is known as a "Temple of Music"; Chicago recently moved a three-hundred-ton masonry structure to correct an error in orientation; Detroit, through the "Michigan Architect and Engineer," has just held a competition to bring out new ideas on park bandstands. Santelmann, leader of the United States Marine Band, advises that the design of most bandstands prevents the playing of many of the best musical compositions. It would appear, therefore, that bandstands may be of sufficient size to interest architects and of sufficient complication to demand their careful study.

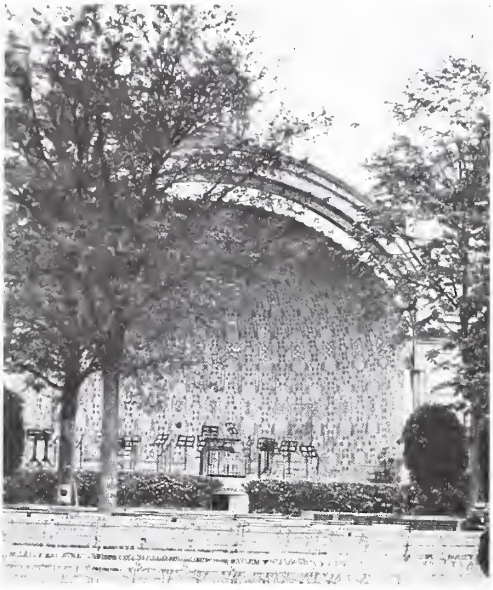
EVERY town of any pretense has some sort of bandstand, although the occasion for its use may be only the annual Independence Day celebration. Bandstands have always had a peculiar appeal to the public if for no other reason than that they afford one of the few remaining free shows. There are a dozen different types and we have the word of almost any conductor that most of them are faulty in one respect or another.

The simplest type of structure is a sectional, square platform which is set up for special occasions. It is, literally, a one-night stand and the simplest solution of the neighborhood concert. It imposes upon the park area only during the period of its actual use. It is usually in one level, without canopy or background, with nothing to be criticised from the architect's point of view and nothing to be praised from the conductor's. A variation of the type, semi-circular, with step levels, of piping and slat sections, is used in the Piazza San Marco, Venice.

What this type of stand may lead to is indicated in two reports of the Minneapolis Park System. The 1914 Report reads: "The cost of transportation and erection of the portable bandstand is about fifteen dollars per night. . . . A plain wooden stationary bandstand has been erected in Minnehaha Park at a cost of about one hundred and fifty dollars. While the structure has served its purpose, it is an unsightly affair and to some extent a nuisance. I believe it would be a mistake to erect similar stands in other parks. A park bandstand should be an ornamental affair and not a disfigurement." Notwithstanding this diagnosis, a lapse of five years reveals that "inexpensive stationary bandstands were built in all parks where concerts were given and, while they are not an ornament to their locations they will do away with the expense of the movable bandstand which has served its purpose for twelve years." Another five years, it is hoped, will confirm the original analysis and cause either the elimination of these disfigurements or their replacement by permanent stands better designed and perhaps better located.

Next in order is the park pavilion, the familiar temple type on which the village carpenter has exerted his maximum effort or the architect has cut loose to do "something playful." Even Gotham has a shining example of such a bandstand on its Mall in Central Park. Like the roofless type, this stand serves a surrounding audience, but, unlike it, has the advantage

* Other articles on the subject of Park Architecture by this author—at one time Government Architect of Public Buildings and Grounds—are Bathing Establishments, Field Houses, Lodges, Boat Houses, Refectories and Greenhouses. These articles appeared in the PARK INTERNATIONAL, now consolidated with THE ARCHITECTURAL RECORD.



A Shell Type Stand at Lucerne, Switzerland. It shows enough vertical surface below the springing of the half dome and a pleasing overall decoration. Inconspicuous doors lead to rear service room. The stand is flanked by fountains, seats and high hedges, and fronts on the lake promenade.

of a better sound distribution on account of its roof—providing of course that the ceiling is not a sound trap. One of the most pretentious of these pavilions is the one on Boston Common, based on the temple in the Borghese Gardens in Rome. The current report of the National Commission of Fine Arts mentions that "the American adaptation of this classic design shows how easily grace and lightness may be lost."

A modification of this type, without architrave, has an overhead sounding board, upheld by only two lateral piers—facilitating the flow of sound waves and deflecting them downward. Rochester, New York, has developed such a type as one of several which are radically different.

The simplest type of stand which attempts to drive the sound in one direction is a terrace extension in connection with a park building. The natural thing to do is to extend the entrance or opposite terrace to accomplish additional monumental effect in the approach. If, however, an arcade or broken surface is involved as a backdrop, the resulting sound confusion may be worse than the dissipation of sound around a free standing pavilion. This leads to the construction of a special wall background, usually semi-circular in form, with or without overhead sound reflector.

Finally comes the niche or shell, specially designed for band concerts and most favored by band leaders for the assembling and distribution of sound. This type finds a good example in "Concert Valley," San Francisco, and again in San Diego, where a similar structure houses a great out-door organ. Both niches are flanked with colonnades. Another well-known example occurs in the Kurplatz in Lucerne and still another in the Zoological Garden at Leipzig.

Associated with bandstands we find all sorts of park utilities, so insistent in most places that it is a pleasant surprise to find a bandstand built for its own sake. Louisville reports: "Here is a beautiful comfort station erected by the city at a cost of fifteen thousand dollars. It has every convenience and above it is an ornate bandstand." St. Louis adds a feature: "Comfort station, tool house and bandstand recently completed."

If one is going to build a bandstand with floor level three or four feet above ground, there is a very strong temptation to lift it a little higher and dig a little deeper, and *voila!* space to "utilize." After having seen a score of conspicuously useless pavilions, painfully empty, one can readily understand the spirit that seeks to justify their cost. It is an evil spirit, however, that lifts the base just enough to destroy the proper proportions and adds entrances and windows so conspicuous as to detract from the superstructure. If any such combination is attempted, it seems more reasonable to work it out in connection with a shell or other one-facing stand so as to distinctly separate such services. A more reasonable arrangement is to utilize the base at its normal height and the requisite depth for incidental storage of folding chairs, awnings, racks and the like, with inconspicuous entrance and minimum fenestration. Such a combination of functions works out best when it

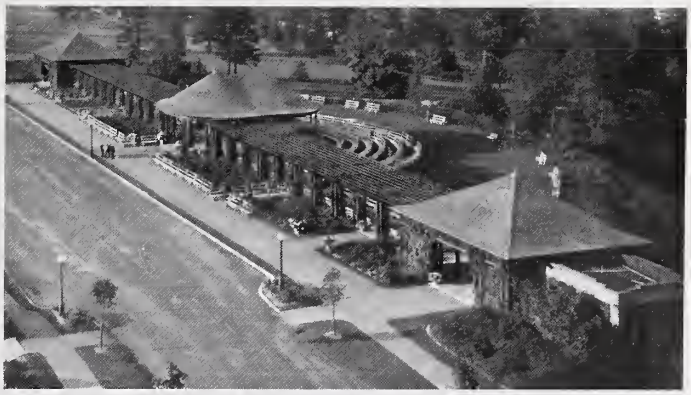
can be developed from changes in levels. A terrace or retaining wall offers plenty of opportunity for all desired services with radically different treatment of the pavilion.

Alternative functions for the superstructure are its use for outdoor forums or public meetings and for emergency shelter. This latter use is subject to much disagreement, one group railing out and at the public because it would profane the temple, while the other makes no distinction between a bandstand roof and any other roof as long as it will keep off the rain. The position and size of the stand and the character of its clientéle will determine the advisability of either procedure. Whether or not the stand itself is so utilized, there should be some provision for shelter in any isolated park situation to which the public is invited. Low arcades flanking a shell or an enclosing colonnade such as that in Humboldt Park, Chicago, serve the purpose better than the use of a bandstand perhaps already full of musicians. In this same park, the colonnade shelter is supplemented by a refectory pavilion which forms a most desirable combination when there is a musical program under way.

Among associated facilities may be mentioned the combination of a boating, bathing and refreshment pavilion at Lake Harriet, Minneapolis, with a bandstand on the roof. The long low building is packed to overflowing with seated spectators. Along one side of the building are massed automobiles; along the other side canoeists float back and forth.

In working out the details of a bandstand design, local climatic conditions and customs will cause many variations of rule. San Diego, which rarely misses a day on account of bad weather, does not need the shelter required in another city less favorably situated. San Francisco provides shade with a canopy of foliage — short sycamore trees trimmed like umbrellas. One town may feature afternoon concerts and another may require evening affairs — though usually a single stand will serve on demand. In any case, due consideration must be given to lighting, either natural or artificial, its exclusion or provision, whether a stand is temporary or permanent. These may all seem trivial details, but again we think of Chicago spending eight thousand dollars to pick up a completed marble structure and turn it around for the reason that "the sun shone directly into the musicians' eyes during the afternoon concerts, and the audience was frequently blinded by the reflection from the brass instruments."

Avoiding a discussion of outdoor acoustics, a point to be taken up in connection with open-air theatres, certain general phases may be noted. The ceiling of a covered pavilion may be level, depressed or raised, but in no event should a roof pocket be left. The so-called "Russian Bandstand" in the Zoological Gardens in Berlin has a mushroom ceiling with center support; the band-canopy in Madison Square Garden has a series of shell motifs which break up the ceiling into separate outward-facing vaults. A ceiling slightly raised in the center with coves instead of cornices or architrave mouldings helps to blend the sound waves



The design and arrangement of this Concert Group with Central Music Pavilion, in Seattle, are admirable. Its location on a through boulevard proved so ill-chosen, however, because of the noise interference and traffic risk, as to necessitate its complete abandonment and the erection of a stand in a new location several hundred yards from the boulevard.



The Swaysee Memorial at Exeter, New Hampshire. A fine example of the pavilion type with a roof in agreeable contrast to the usual top-heavy tiled dome. Henry Bacon, Architect.

and to facilitate the work of the conductor, but a dome will confuse the sound waves. Angles, coffers, pockets and projections, even balustrades and corner piers with engaged columns are considered objectionable by band men. Likewise, clustered corner columns—seven, as in one Rochester pavilion—seriously impede sound and have no justification architecturally.

Wood has preference over other materials for ceilings, shell linings and floors. Hollow backs and even double floors built like a drum are current contributions to bandstand design.

Outside interference must also be taken into consideration. Motor vehicles and the commands of traffic officers will spoil even the best of acoustical effects, while the movement of cars endangers the safety of crowds afoot.

Size varies with size of local bands. For a full complement band of forty-five or fifty men, five or six hundred square feet of floor area should be provided. The ceiling of a pavilion should never be less than fifteen feet from the floor. The top of a shell opening should be twenty-five to thirty feet. The spring-line of the vault is frequently too low. The floor need not be so jacked up in the air as one frequently sees. The spectators like to see the solo players, but an elevation of three or four feet enables them to do this comfortably.

Elevating a bandstand to keep the boys out and then heavily balustrading it to keep the band in, is prejudicial to appearance and function. A high base is usually unsightly and a heavy balustrade impedes the flow of sound. A light iron grille serves the protective purpose without obstructing view or sound, and by opening up the stand to view makes it less attractive to mischief makers.

A heavy balustrade looks ungainly between columns or takes away from needed height if used below the column base. Many stands suffer from short columns and chunky inter-columniation, so that usually every available inch of height is needed. Another cause of heaviness in appearance is the attempt to use a domed roof over the large platform area required. The result is frequently a dome overpowering the structure or else insignificantly receding. A simpler direct solution is the use of a low conical roof, as in the bandstand at Exeter, New Hampshire.

Among special arrangements should be noted those relating to water. Onondaga Park, Syracuse, has an island bandstand about a hundred feet from the shore and five hundred feet from any motor parking. Players and audience greatly enjoy



This Detroit pavilion, like most of the Belle Isle features, is a happy incident along one of the canoe channels. The lowered ceiling and lifted cornice form a sounding board without losing the lintel line. Van Leyen & Schilling, Architects.

the arrangement. Cleveland has a similar scheme across a neck of water with a sounding board arranged originally for Madame Schumann-Heink and since made permanent. Private interests in Washington have developed a river float with string band around which the canoeists congregate after the Venetian fashion. Detroit has a bandstand perched on a bridge over a canoe channel.



A Sounding-Board Type in Rochester, N. Y. The shelter for which the platform is stilted could be placed elsewhere to better advantage. Gordon & Madden, Architects.

Louisville has developed a type of phonographic concert for playgrounds and even for parks—a concert with a range of four hundred feet. Next in order is the wireless receiver with amplifiers for distributing concerts which are already being "broadcasted" nation-wide from central stations. These developments, representing a new era in park music, present new problems to the park architect.

In summing up some of the details of design it must be kept in mind that the first requisite is that the music shall carry distinctly to the greatest distance, with factors quite different from those of auditorium design. The second requisite is to produce a harmonious architectural *ensemble;* it is difficult to concentrate upon and to enjoy a musical composition if the eye is sub-consciously strained in trying to follow the fanciful curves of the mid-Victorian age or annoyed by amusement park effects. The results of the competition for a park bandstand recently held in the city of Detroit indicate that the first of these two objectives was not



A variation of the shell type at Prague, Czechoslovakia, accommodating one hundred and twenty pieces and providing dressing and service rooms below. It is of rough frame construction with painted decorations.

fully appreciated, since the open exedra type of stand without sounding board or half dome was the favored *parti*.

The setting of the concert feature has been made the last subject of consideration because of two conflicting policies which govern park music. There is one policy of "taking music to the people" in their own environment. This finds extreme expression in set-ups at street corners, with streets roped off for a couple of hours—a feature at Schenectady; in portable stands moved around from park to park—as in Washington and other cities—with the incidental cleaning up and replacement of damaged plantings; or in temporary structures, monopolizing park space and desolate and depressing to the eye except during concert periods. There are undoubtedly advantages in taking music to sections of the populace who would not leave their own immediate areas; but such advantages are not shared by the parks either in resulting appearance or in cost of maintenance, nor by the people in so far as quality of production is concerned.

The counter policy is the development of one or two really fine concert centers in the most advantageous setting possible, taking the people out of their daily environment into a wholly different atmosphere. In this way the very best shell or other stand can be obtained, thereby permitting the playing of compositions not suited for stands without proper sounding boards. Positions may be found of special desirability for natural acoustics and of good slope for seating. There are plenty of neighborhood parks in Rome, but all Rome climbs the highest of the seven hills for the afternoon concert on the Pincio; most Swiss cities have some sort of concert, but Lucerne, with its great concert garden fronting on the lake, is one that stands out from the others. Such gardens, instead of thrusting their vacancy constantly before one, are seen only when sought out for their great occasion. Shut in with hedges or natural planting, adorned with fountains, provided with ample seating capacity, convenient—but not too near—for motor parking, and set apart from playground, street car or other city hubbub: such concert gardens may well become the pride of our own cities and the means by which they shall establish themselves the sooner as patrons rather than as mere providers of music.



A Metal-and-Glass Music Pavilion on the Pincio, in Rome.
The slender supports offer little opposition to sound and the extended glass cornice supplements the sounding board.

A MEMORIAL PARK
COLLABORATIVE PROBLEM OF THE AMERICAN ACADEMY IN ROME

By
James K. Smith

FOR the purpose of stimulating collaboration among the Fellows of the American Academy in Rome, the American Institute of Architects through the trustees of the Academy has instituted an annual problem. The Fellows work in groups, each consisting of an architect, a painter, a sculptor and a landscape architect. These groups seek to solve an assigned problem so as to achieve a close relationship of their respective arts. The program submitted for the last collaborative problem was as follows:

A rich and cultured city of the United States, with climate that of Washington, intends to erect a War Memorial. They have purchased eight blocks, consisting of an area of one thousand feet by six hundred feet running lengthwise on either side of their main residential boulevard. The blocks purchased lie in a portion of the city where all are equal and perfect rectangles. The boulevard runs north and south and is level, except for a rise of four per cent. up to this area. The boulevard measures one hundred and fifty feet between lot lines; all other streets measure ninety feet between lot lines. The park is level. An abundance of water may be assured.

This purchase is to be made into a Memorial Park. In it is to be placed a small memorial building that shall contain all that pertains to the Great War—relics, historical data, tablets—in a small meeting room. The outside of this structure, particularly the façade, must be expressive of its purpose. It is to be precious rather than pretentious in size.

One month was allowed the competitors for the completion of their designs, all work done *en loge*. The presentation included a model of the façade, at three quarter inch scale, with its sculptural and color decorations; a layout of the park at one-sixteenth inch scale, and a plan section and elevation of the building at one-quarter inch scale. The model was specified as the chief portion of the problem.

The results of the competition show how different a construction was put upon the terms of the program by the two teams. The program, in fact, appears to have been written loosely with the very idea of allowing the competitors a wide choice in working out their solutions. Although this wide variation makes a comparative analysis difficult, it is valuable as offering two distinct and entirely different treatments of the proposed memorial park.

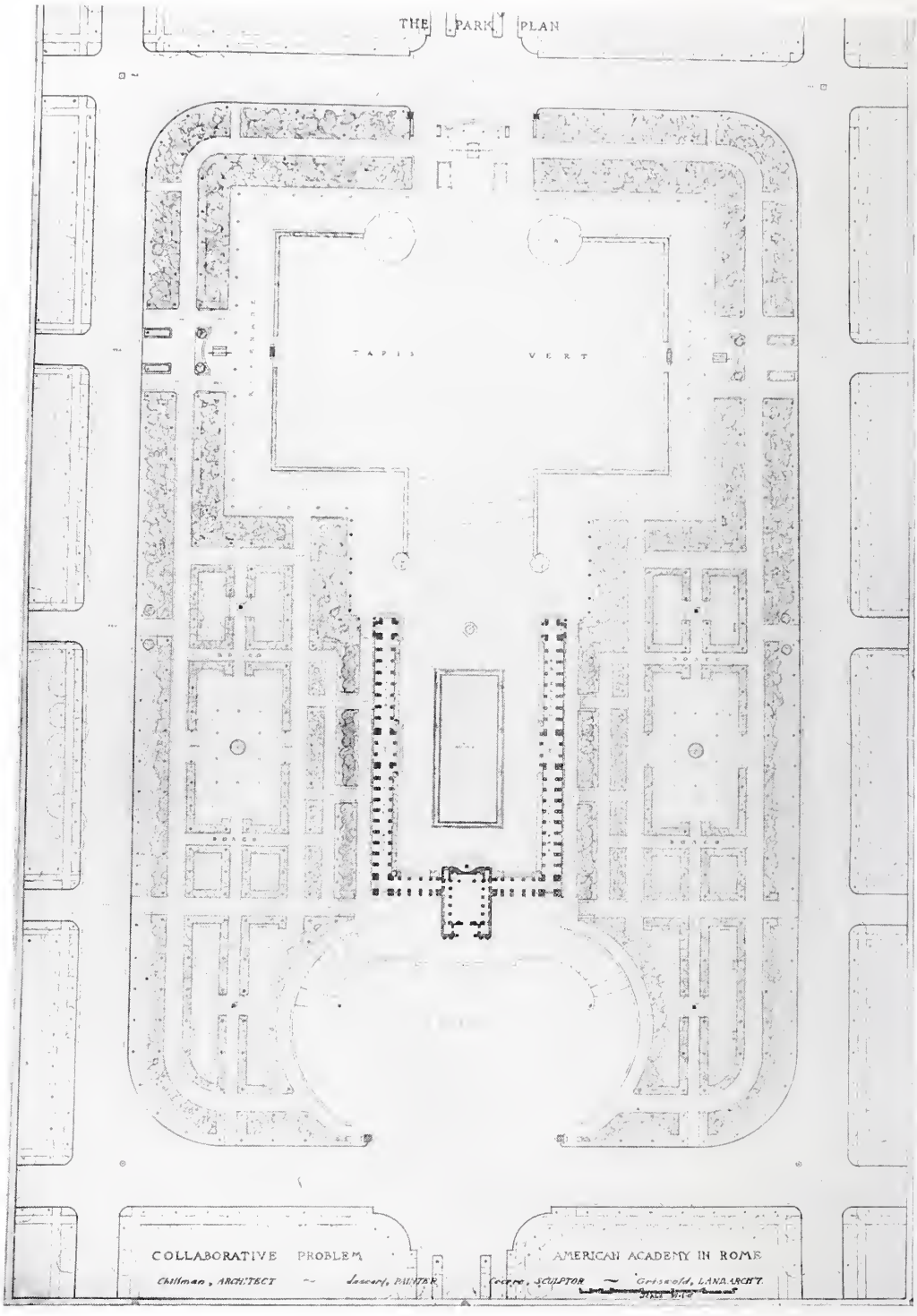
In the scheme worked out by the group comprising Mr. Chillman, architect, Mr. Griswold. landscape architect, Mr. Cecere, sculptor and Mr. Lascari, painter, the boulevard, which was the crux of the scheme, is carried around the park area. This offered an opportunity to develop a compact enclosed unit. The memorial building is placed upon the axis of the boulevard as terminus of the rising grade, and in its design is treated with a large Palladian motive, suggesting that the building is a portal to a memorial colonnade, of which it is made a part. Behind the building and embraced on three sides



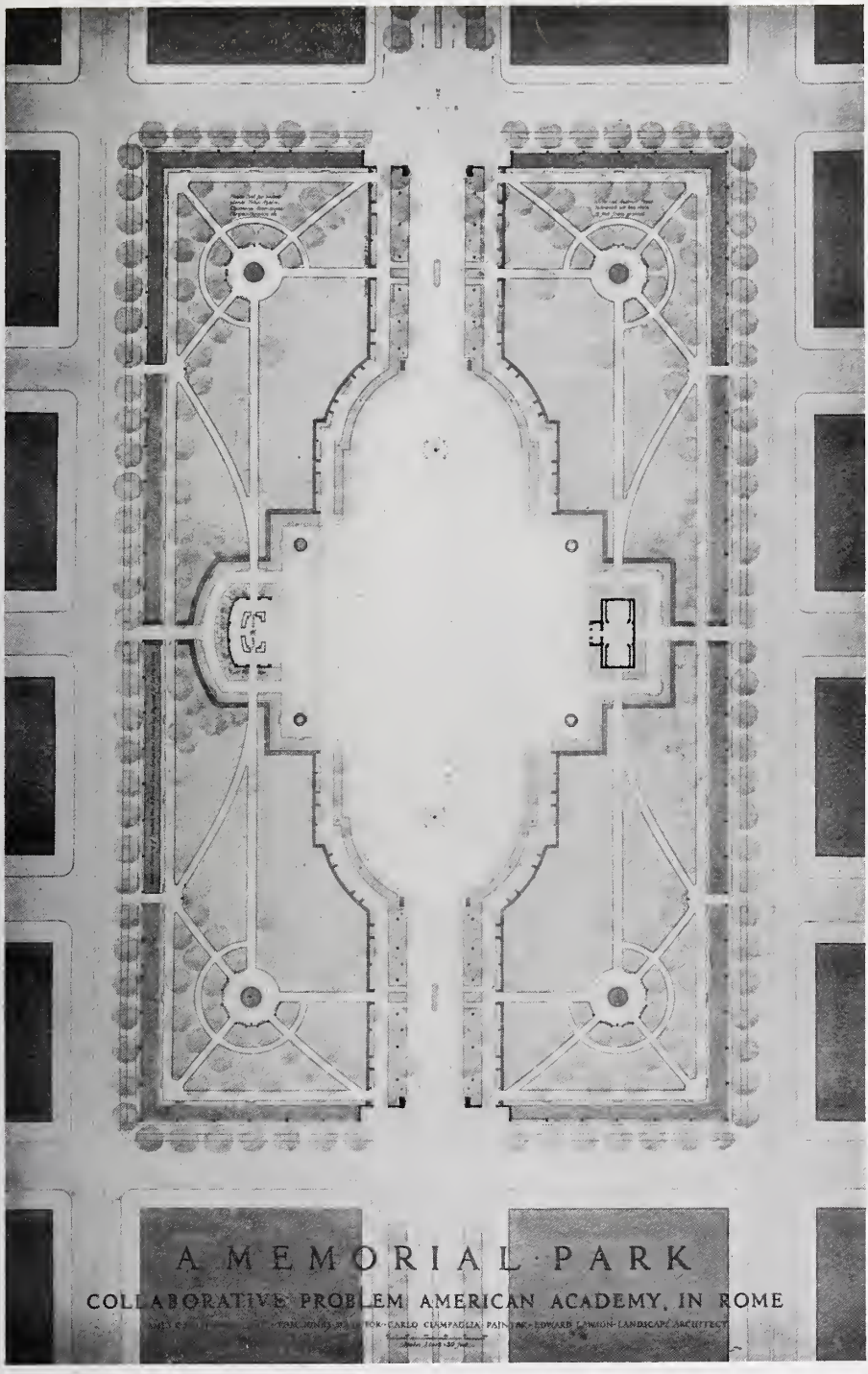
A MEMORIAL PARK. COLLABORATIVE PROBLEM OF THE AMERICAN ACADEMY IN ROME.
The design of the Memorial Building of the first group is treated with a large Palladian motif, suggesting that the building is a portal to a Memorial Colonnade of which it is a part.



A MEMORIAL PARK. COLLABORATIVE PROBLEM OF THE AMERICAN ACADEMY IN ROME. The Memorial Building of the second group is designed with close adherence to the Greek tradition, affording an opportunity for a very close combination of painting. sculpture and architecture.



A MEMORIAL PARK. COLLABORATIVE PROBLEM OF THE AMERICAN ACADEMY IN ROME. In the first plan, the Boulevard is carried around the Park area, and a compact enclosed unit is developed with the Memorial Building as terminus to the Boulevard.



A MEMORIAL PARK. COLLABORATIVE PROBLEM OF THE AMERICAN ACADEMY IN ROME. In the second plan, the Boulevard passes through the Park, expanding midway into a large open area. Upon one side is placed the Memorial Building; on the other, a war trophies group.

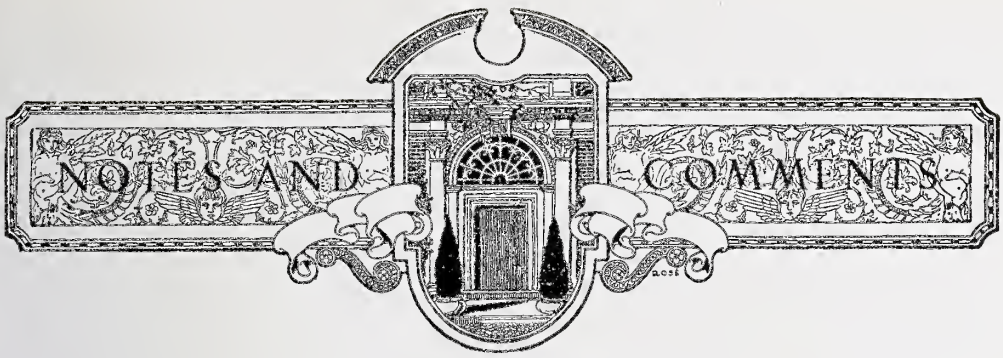
by the memorial colonnade is a long pool, dominated by a heroic statue of a doughboy occupying a niche in the rear façade of the building. The park is worked out with a large open space for military reviews and public functions. The design includes shaded walks, fountains and other park features.

The treatment of the memorial building itself is interesting as an attempt to avoid, by use of architectural motives with a rich Georgian flavor, the severity of many of our memorials. The walls behind the Palladian entrance give a fine opportunity for color. These are decorated by a series of paintings portraying reverence for those who died in service and the forces that guided the destiny of the country in war. The sculpture upon the front of the building is confined to the bronze doors and the eagles upon the top of the pediment.

In the scheme worked out by the group comprising Mr. Smith, architect, Mr. Lawson, landscape architect, Mr. Jones, sculptor and Mr. Ciampaglia, painter, the boulevard is allowed to pass directly through the park and the necessary concessions are made in the design. The boulevard is expanded within the park to form a large open area fit for military reviews. Upon one side of this area is placed the small memorial building, flanked by fountains; upon the other a large war trophies group is arranged around the flag. The open space of the boulevard is otherwise treated with victory columns and statues. The park is carefully studied from the standpoint of the surrounding streets to afford a direct and pleasant passage through it in any direction, the planting placed so as to emphasize especially the openness of the treatment with regard to the boulevard.

The memorial building is designed with very close adherence to Greek tradition, in the feeling that this style is singularly appropriate for a memorial as well as inspiring for a very close combination of painting, sculpture and architecture. The reliefs, the memorial doors, the pediment head, the painted frieze in the vestibule, all were conceived with allegorical intent, and executed as carefully in the spirit of the tradition as possible.

The results of the collaboration are noteworthy at this time when memorials are a constantly recurring problem in America. Not least in value is the dissimilarity of the two designs, indicating the wide range of possibilities in the handling of a problem of this kind. As preliminary to collaboration between architects, artists and landscape designers, however, must come a closer understanding between art committees, city planning boards and park commissioners, and a willingness to cooperate on the part of officials having memorial projects in charge. Thus only may harmonious creations be obtained, not alone of well balanced merit in themselves but conforming with the surroundings and contributing to the ideal of unity in civic beautification.



The editor of THE ARCHITECTURAL RECORD takes pleasure in announcing that Mr. George Burnap has joined its staff as consulting and contributing editor, in charge of subjects relating to landscape architecture, city planning, and outdoor art in general. Mr. Burnap, who is a practicing landscape architect, with offices in Washington, D. C., was for six years Government Landscape Architect of Public Buildings and Grounds, is the author of "Parks, Their Design, Equipment and Use," published by the J. B. Lippincott Company, and is lecturer on landscape design at the Massachusetts Institute of Technology.

Landscape and civic design are of universal interest to architects. But the architect's point of view is a very definite and special one, and few writers on landscape architecture have the training required to share it. Mr. Burnap, however, is an architect as well as a landscape architect; and his writings have a stimulating quality of originality in their grasp of landscape problems from the viewpoint of the architectural designer.

About two years ago Mr. Burnap founded the PARK INTERNATIONAL, a bi-monthly magazine which attained a circulation not only among those interested in the development and enjoyment of parks, but among architects, landscape architects, and the several allied professions. The new periodical received a surprisingly large number of enthusiastic encomiums from a wide range of readers.

Mr. Burnap soon found that he had underestimated the labor of editing a magazine; and eventually reached the conclusion that he would either have to discontinue the PARK INTERNATIONAL or give up his practice in park and town planning, the phase of landscape architecture in which he has acquired reputation.

Choosing the former alternative, he sought cooperation of THE ARCHITECTURAL RECORD in the publication of material from the same standpoint as that which he had taken in the PARK INTERNATIONAL. We were glad to fall in with his idea, for we believe manuscripts of his selection and his personal contribution will command the attention and interest of architects. We are to fill the PARK INTERNATIONAL'S unexpired subscriptions with copies of our magazine. We imposed as condition to any agreement that Mr. Burnap become a permanent member of our staff—a condition which he has accepted.

Although Mr. Burnap will be a frequent visitor at this office, time will be saved for contributors on landscape architecture, town planning and allied subjects by addressing him at 808 Seventeenth Street, Washington, D. C. MICHAEL A. MIKKELSEN.

Thomas Hastings on Small City Parks

Saint-Gaudens is said to have opposed the removal of the Jackson statue in Lafayette Park, Washington (frequently styled the "Rocking Horse")—from a desire to preserve the park's "archaic" character. The same viewpoint has prevented the many changes in the design of this park proposed since the McMillan report on "The Improvement of the Park System of the District of Columbia," was prepared.

It is, of course, unwise to decry all park design of our predecessors. There is danger, undoubtedly, that each succeeding generation, in the assurance of artistic progress, may wipe away all trace of what has gone before—that precedent will consist of historical record rather than extant example. Yet Lafayette Park was not always as it is now; old prints show a picket fence enclosing the area, and probably there were other features which have disappeared. Was it not George Bernard Shaw who urged that all buildings that have stood for thirty years be destroyed—an architectural Dr. Osler in forcing public dependence upon the rising young architect?

Without prejudice, one may say that parks should neither record for all time the period in

which they were built, nor should they change with each passing fancy. Steering a course between preservation of parks "as is" for antiquity's sake and revocation of all parks designed by our predecessors, let us hold that parks shall conform to their environment. Especially is this true in respect to parks located in the heart of a busy city. A park of naturalistic landscape design suitable to a neighborhood of residences is an anachronism in an environment of skyscrapers. Thomas Hastings, who has re-designed Mt. Vernon Park in Baltimore to bring it out of the past into the present, states as a general principle: "A small park bounded by straight lines in the heart of a city, with winding paths and irregular grades, is in my opinion quite out of place; such a park should be architectural in character. It should be, in other words, a public square rather than a park."

As cities grow around and beyond landscape parks and the building conditions change in mass and character, the parks likewise must be modified to meet the new conditions, if they are to be component with the city plan. Aside from the appearance of congestion in narrow and winding walks close beset with naturalistic planting, there is an actual lack of accommodation in parks thus designed. Parks in the midst of a city must provide space in which people may congregate, ample and direct passageways from side to side, and adequate provision for seating. The old geometrical designs of forty years ago, which appeared very pretty in plan as viewed from overlooking windows, are inconvenient for pedestrians and anomalous in the average city environment. "It is not a matter of a slight change in walk lines here and there," states Hastings. "In my opinion, most of our small city parks should be laid out entirely anew—more in the nature of the plazas one finds so frequently in Italy and France, or some of the squares in London.

"If parks are the open spaces of a city plan, city parks need to be designed expressive of open spaces. In this era of city planning, and especially during the present post-bellum period, no more splendid work could be undertaken than that each and every small park in a city like New York should be done over again, re-designed, and perhaps each one of them made a memorial for the general benefit of the city as well as for the purpose of memorializing." The treatment of the plaza at the entrance of Central Park, providing effective setting for the Sherman monument, re-located in connection with the erection of the Pulitzer memorial fountain, carries out



Park Mall to the rear of New York City Public Library, laid out by Mr. Hastings in harmony with the architectural environment.



Plaza designed by Mr. Hastings at entrance to Central Park, New York City, co-ordinating the Sherman Monument and the Pulitzer Memorial Fountain, and reflecting the character of the surroundings.

Mr. Hastings' idea that city open spaces need to be modified in keeping with new and changing conditions.

The area around the New York City Public Library, laid out by Mr. Hastings in architectural terraces and promenades, furnished with formally placed shade trees and benches, compares strikingly with the outlived layout of Bryant Park adjoining. It is an example of the new and old, side by side in a city plan: the one, harmonizing with its surroundings in architectural design; the other inexpressive of location, in loyalty to the park pattern of a bygone days.

GEORGE BURNAP.

The Architectural League Exhibition

This year's exhibit of the New York Architectural League had not the interest of former years. The reason is that the high cost of construction since the war has hindered building; and this want of material could not be overcome even by that splendid decorative staging of exhibits which has made the League a leader in the art of exposition.

Nevertheless, despite the smaller quantity, the exposition was valuable in showing tendencies in American architecture since the war. Tendencies do not often reveal themselves clearly from one year to the next, but one year, taken in connection with those previous, may sometimes be significant.

In the first place, town-and-country architecture—particularly domestic architecture—continues to be the most important field in American work. The League exposition contained less city work and what there was of it was not so consistent, nor did it show the grasp of the country types. This condition is not surprising, because Americans are a town-and-country race who have yet to master the art of creating a city and of living in it with the same perfected social environment that they have evolved for town and countryside.

Like all generalizations, this one needs qualification, and the splendid city houses exhibited by Delano and Aldrich belie it. Their simple, faultless proportions, and exquisite scale, together with their charm and vivacity—qualities so prized today—prove that Delano and Aldrich inherit the mantle of McKim in the field of the large city house. It is likely that their art will be admired long after the more startling designs of the day are forgotten.

Perhaps the salient feature of the exhibit is the growing tendency towards freedom and originality. American architects are reaching the fundamentals of architecture: they are now so thoroughly at home in their design that they create instinctively, and no longer do they view architecture as something outside, a product to be reproduced mechanically. Our architecture becomes more and more a vital artistic creation. In the League show one sees flexible arrangements of plan, fine groupings of mass, increasing mastery of form and a more imaginative, a more spontaneous and more sensuous use of color and decoration. Appropriately enough, those architects who have always followed that path, Walker and Gillette, received the League medal, a tribute to the splendid showing of their work of the last few years. As long as such rich imagination keeps within the bounds of custom its promise is infinite; but when it jumps the fence into the field of novelty for its own sake—with no real vitality below the surface—it loses value. Even Walker and Gillette's design is loose at times, a fault which may

be noted in the interior of the New York Trust Company's banking room.

One more tendency shown by the exhibits deserves mention. This concerns style. Eclecticism is still in vogue, but it exists more in city than in town-and-country architecture. In the latter, early American and British influences reign, the Italian forms being chiefly noted in the interiors of large city houses. Designs in the native style, derived from early America, showed much freshness, and the buildings seemed in finer harmony with their sites than in the case of most of the English type. Although the English type is supposed to be more flexible, designers find it more difficult to master than our native tradition. In fact, many of the brick houses of English type—those in which stone mullions and projecting bay windows are omitted on account of cost—the walls seem bare and thin, and disturbed with the inharmonious rectangular shapes of the window openings; and the outlines of the buildings appear too sharp. But in the best English examples of the type—such as the Coe House of Walker & Gillette and an entirely charming little Philadelphia house by Mellor, Meigs and Howe—these faults are not evident.

Among designs in the native vein, the model of the Oakland Country Club, Long Island, designed by Mr. Roger H. Bullard, stood out because of its picturesqueness, and because of the admirable way in which the long walls and long varied ridges caused it to fit into the contours of the sloping site. Another, slightly more formal, but very interesting and of perfect grouping, was the Convalescent Home at Cortlandt, N. Y., by Delano and Aldrich.

Although the native work seems to wear well and to be more sure, one should not decry alien elements. American architecture is coming each year to be more characteristic, and is more original, yet it needs enrichment from outside sources. Its increasing imagination and power is well able to assimilate new food, and time may be trusted to eliminate all that is weak or temporary.

JOHN TAYLOR BOYD, JR.

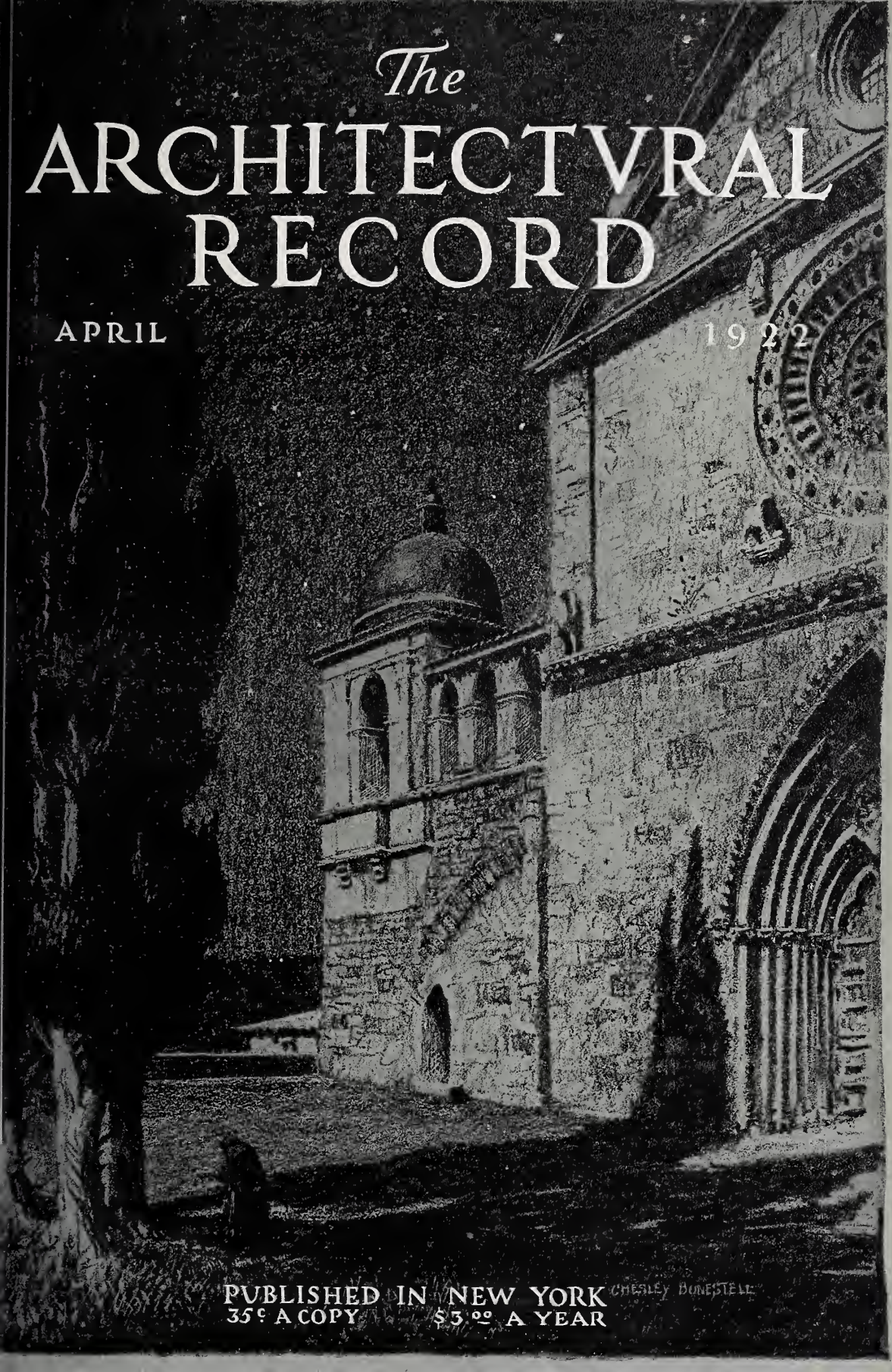
Art Scholarships for High School Pupils

Fourteen pupils of the high schools in New York City have been awarded industrial arts scholarships by the School Art League. The winners of the scholarships are to enter upon their advanced work in the New York School of Fine and Applied Art. Each scholarship pays the fees of the student for a year of post graduate study in costume illustration, commercial designing, textile designing or interior decoration. The winners of the awards are: Virginia MacDonald, of the George Washington High School; Irving H. Glick of the Stuyvesant High School; Janette Berkowitz, of the Wadleigh High School; Anna Kovack, Anita Brass and Lillian Raffaelli, of the Washington Irving High School; Elsie Barnes, of the Evander Childs High School; Bertha Kraemer, of the Morris High School; Sol Katzman, of the Bushwick High School; Clifford E. Miska, of the Bryant High School; Philip Blampied, of the Flushing High School; Arthur Pollak and Alva Lindquist, of the Jamaica High School; and Thelma Ackerman, of the Curtis High School. An additional scholarship has been awarded in the Pratt Institute to Thomas Connelly, of the Commercial High School for Boys.

The plan followed calls for the cooperation of the art schools, the high schools and the School Art League. The art schools aid by making a generous reduction of their fees to these gifted pupils, while the high school art departments and the School Art League combine to defray the necessary expenses. The League obtains its contributions through the Scholarship Committee headed by Mrs. Laurent Oppenheim, while the high schools adopt various measures to provide the needed funds. In some of the high schools the students hold bazaars for the sale of art objects which they have made; other schools arrange entertainments and dances. Throughout the high school there is much interest on the part of the student body in the scholarship plan.

The ARCHITECTVRAL RECORD

APRIL 1922

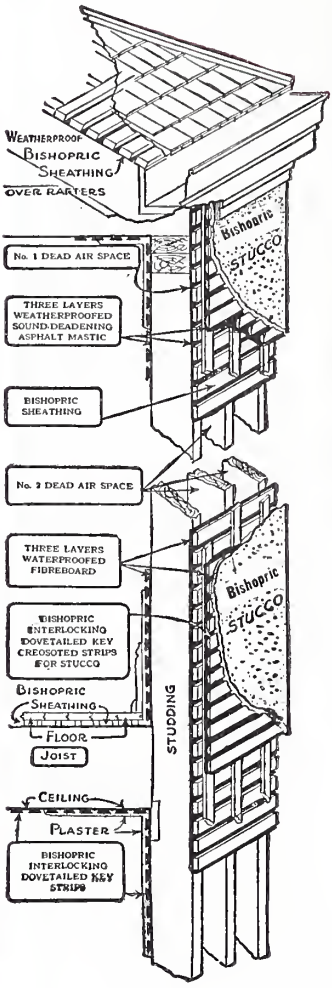


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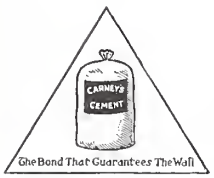
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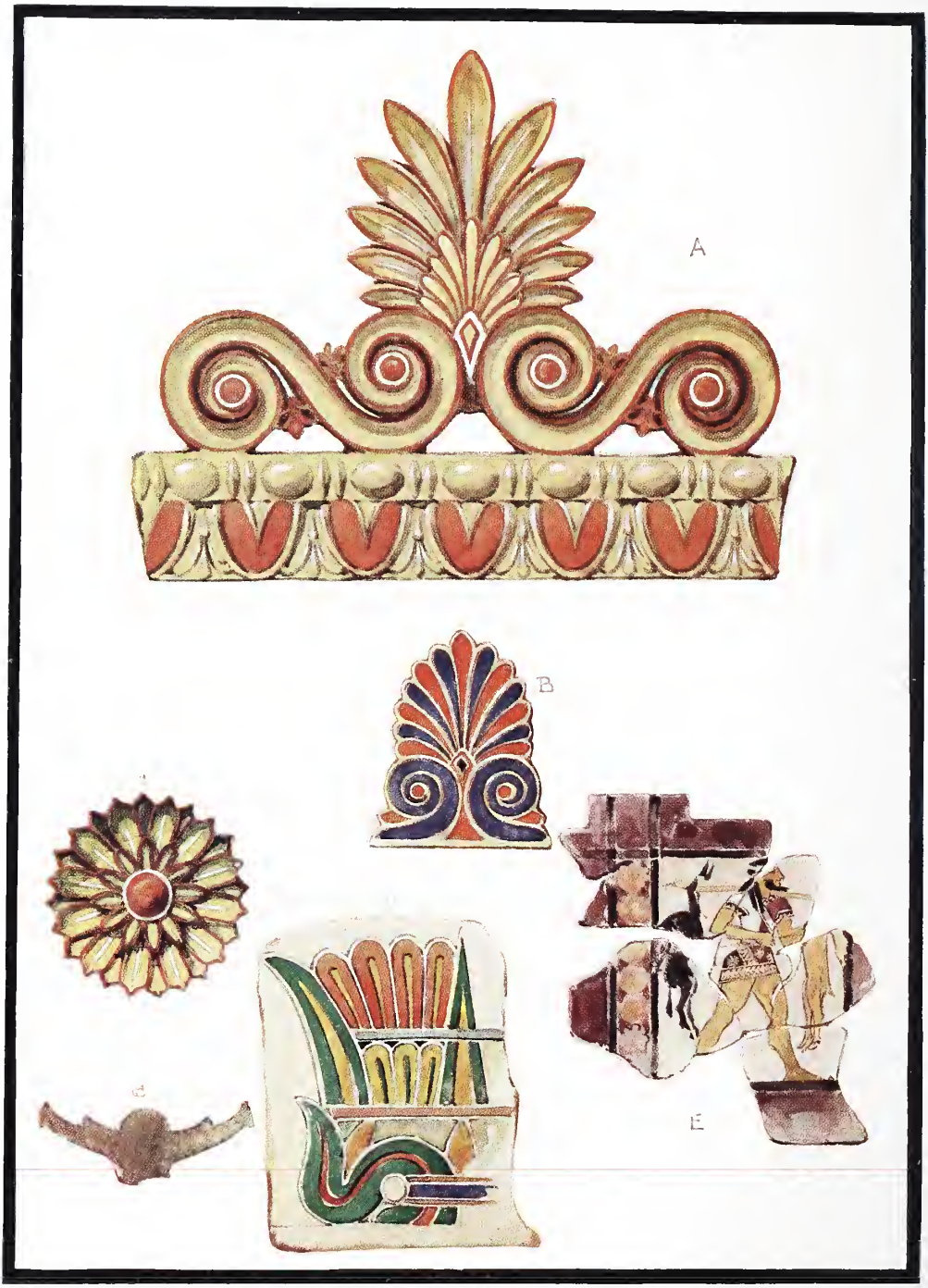
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B. Akroterion Parthenon.
C. Rosette Olympia. Terra cotta.
D. From the Akropolis.
E. Terra cotta metope Temple of Thermos.



TERRA-COTTA ANTEFIX
POLYCHROME, V
CENTURY.

ARCHITECTVRAL POLYCHROMY

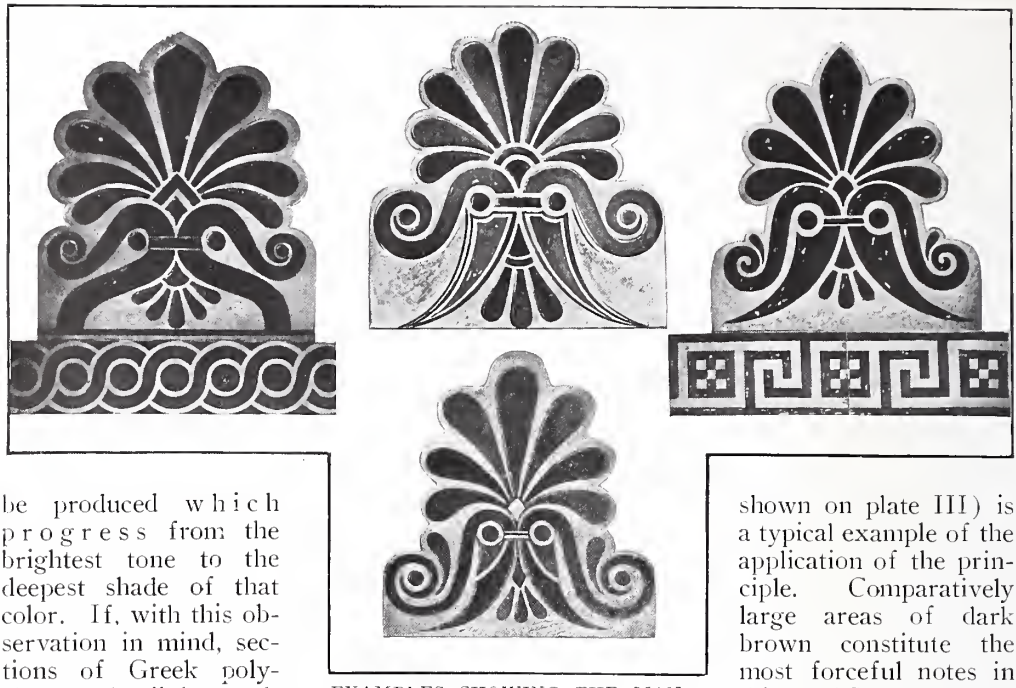
BY LEON V SOLON

PART IV

The Technique of Architectural Polychromy. Light & Shade as Media for developing Tone Interest in Flat Color The Greek Method for Neutralizing Antagonistic Tones

IN the preceding part of the treatise it was maintained that color gradation when artificially produced in architectural polychromy induces visual impressions which are not in accord with actual conditions. One must not, however, condemn tone gradation in every form as disadvantageous. Where color is employed to contribute its quota of beauty to architectural effect, it would be illogical to impose a restriction eliminating one of its most interesting features. Ungradated color was exclusively used by the Greeks in architecture; but, if the conformation of their colored ornamentation be analyzed, it will be found full of significance. The realization that forms ornamentally contrived were ultimately to be viewed as colored decoration, must undoubtedly have influenced their evolution. This probability supplies an objective to research; it becomes necessary to reconstruct the arguments from which the Greeks developed certain practices, and incidentally to ascertain the applicability of their methods to modern problems.

The tendency of flat colors, applied in comparatively large areas, is to appear harsh and detached in effect. In coloring an architectural design, the Greeks found it advisable to treat certain sizeable items with an unbroken color. Artistic intuition in such cases would automatically prescribe tone modulation as the most effective means for neutralizing the inherent harshness in such color masses. Artificial gradation being inadmissible, the need arises for discovering methods whereby the requisite chromatic quality could be produced, recognizing the necessity of identifying color effect with the individual effect of each architectural item treated. Color depends upon light for its existence; that is to say, for its visibility. Modifications of tone occur in a color as the direct result of varying degrees of light intensity. As a concrete example, imagine a sphere painted in a brilliant color, and placed before us in such position that rays of sunlight strike it at an angle of from 40° to 50°. With the light rays falling upon this object at angles which range from the vertical to the tangent, a gamut of color values will



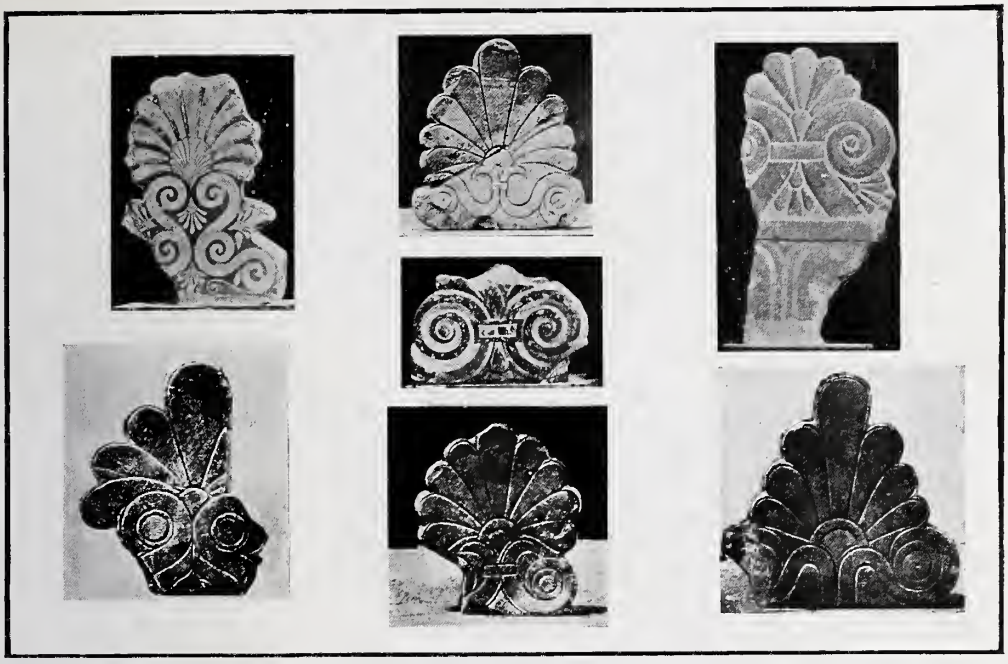
EXAMPLES SHOWING THE MANNER IN WHICH COLOR UNITS IN COLORED ORNAMENTATION WERE SEPARATED. OLYMPIA. COLORING RED AND BLACK AND MULBERRY AND BLACK ALTERNATING.

be produced which progress from the brightest tone to the deepest shade of that color. If, with this observation in mind, sections of Greek polychrome detail be studied, the observer will at once become conscious of a specific importance attached to the play of light upon concave, convex, and inclined surfaces. The inter-relation established between the structure of ornamental form, color, and light, attaches a new interest of an extremely practical nature to certain peculiarities in decorative expression which hitherto possessed primarily a stylistic significance. An exhaustive examination of their achievement during the three most fertile centuries, made from this new point of departure, dispels any surprise at their conservatism in polychrome methods. By this association of media of effect an imperative requirement is fulfilled, in that it identifies color quality with architectural effect, as tone value varies in direct correspondence with the conformation of form and the angles of planes.

EXAMPLES ILLUSTRATING THE GREEK METHOD FOR TONE DEVELOPMENT BY MEANS OF LIGHT AND SHADE.

The gable akroterion of the Heraion at Olympia (a fragment of which is shown on plate III) is a typical example of the application of the principle. Comparatively large areas of dark brown constitute the most forceful notes in this striking detail. Were those color masses applied to flat surfaces without tone variation, their uncompromising strength and inherent harshness would react detrimentally upon adjacent delicate ornamentation. As these broad bands of dark color were essential to decorative effect, their tone quality was modified by a modelled treatment of the surfaces, in anticipation of this color treatment. In examining the section of this akroterion (which we illustrate, page 291) it will be found that these surfaces are modelled with undulations almost semi-circular in section, which, by the action of light, produce an infinite variety of tones in the local color. These modulations of tone cause the masses of harsh color to become constituent elements of effect, instead of detached color units.

The circular antefixae of the same building are a variation of the akroterion motif; but as the proportionate areas of dark brown are not of sufficient importance to assert themselves detrimentally, they are not modelled. An equally important reason for the unmodulated condition of these color masses is that, as



ANTEFIXAE FROM AEGINA.

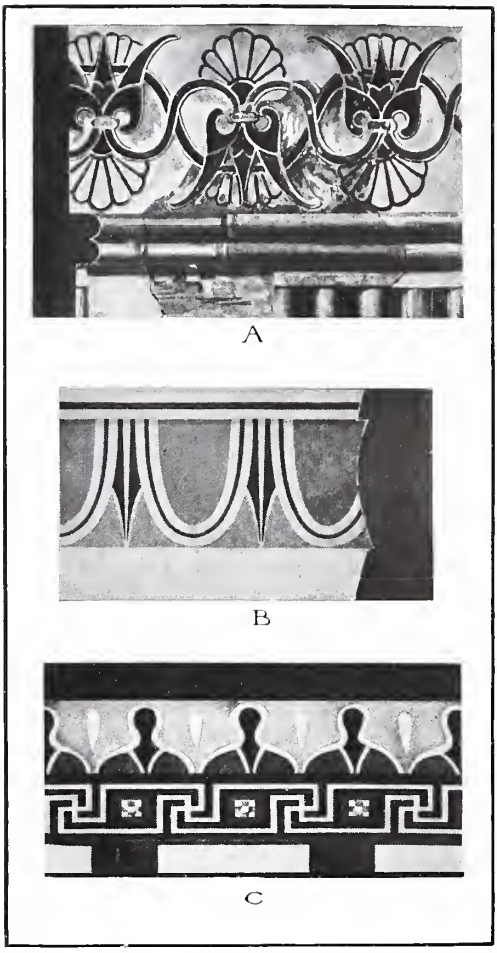
flat tones they constitute a more advantageous background to the central rosette, which is concave in sections in order that delicate tone modulations may be produced.

At the head of plate IV we illustrate an extremely interesting cornice decoration from Olympia, reconstructed by Curtius and Adler. The material is terra cotta; a wide range of tone values are most ingeniously developed in a single color by the peculiar character of its modelling; a red fillet outline, which defines the constituent ornamental items, serves the additional purpose of accentuating and separating the various tone values created. The comparative simplicity of its coloring is readily accounted for by its proximity to the cyma, which is usually one of the most forcefully colored items in a polychrome structure; greater color elaboration would have introduced an element of confusion through competitive interest; this purely ornamental member was consequently subordinated in effect to its architectural neighbor. The bold variation of the "egg and dart" which embellishes the lower part of this decoration, is an interesting instance of light and color adjustment. In normal lighting the bold embossment of the red "egg" detail would assure that tone modulation necessary to mitigate the possible crudity of these valuable color spots. As this decoration stands against the sky, these color masses would, by reason of the diffusion of light, appear flat and detached. To compensate for this condition, a triangular motif is designed in the centre of the "egg," which produces a bold equivalent for the high light. The use of white to accentuate the direction of the scrolls is also ingeniously conceived.

One of the most beautiful examples of this conventional use of concave and convex forms, bounded by the defining fillet outline, will be seen in the carved scroll-like roof decorations which beautify the Tomb of Lysicrates. By this peculiar decorative treatment, ornamental and color values were preserved despite the disadvantages of location against strong light. This magnificent architectural decoration appears to embody the fullest content of expression conceivable in that method of modelled treatment. Unfortu-

nately no trace of any contemporary coloring survives, but there is no reason to assume that it was a solitary exception to the prevailing practice of polychromy. The subdivision of its detail is so obviously planned for color decoration, that a speculative reconstruction of its color treatment would be a comparatively simple undertaking.

The necessity for maintaining the decorative integrity of colored items silhouetted against the sky was fully appreciated by the Greeks; this fact is illustrated in a host of examples. In a number of antifixæ the colored decoration is set well within the outer edges, with the intent to preserve ornamental precision from light encroachment and consequent loss in scenic value. The "saw-edge" or rudimentary "sun-burst" treatment of the contour of the great Heraion anthemion is devised with that object.

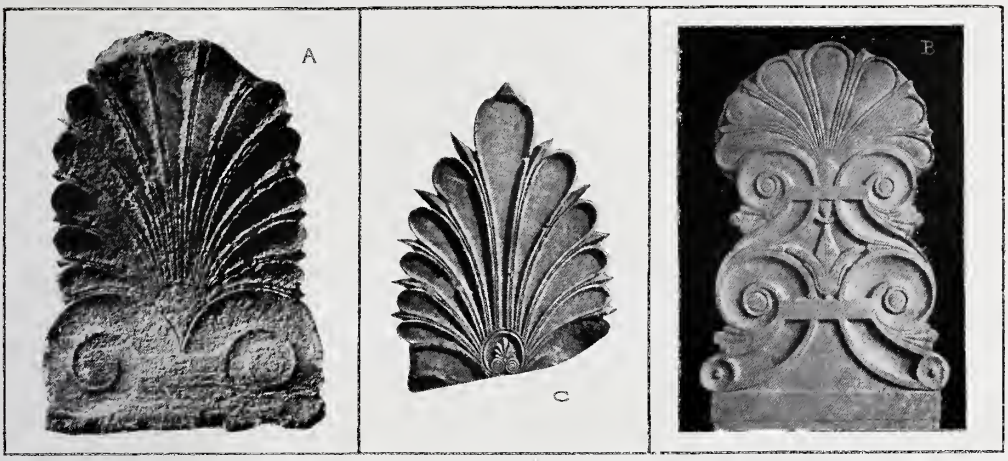


A—OLYMPIA FRIEZE. B—PROPYLAEUM. C—OLYMPIA MOULDING.

THE PRACTICAL PURPOSE SERVED BY THE "FILLET OUTLINE" CONVENTION IN COLORED ORNAMENTATION

Visibility of color from a distance is an essential requirement in architectural polychromy. The suitable palette must consequently consist of forceful tones or pigments possessing a high degree of radiant energy; colors of such character have usually little harmonious relation, and in many cases are mutually antagonistic. Our next problem is to discover a method whereby colors of such character may achieve decorative value when assembled for architectural embellishment. The Greek assortment of pigments was extremely limited owing to their very elementary acquaintance with chemical process; their practice was confined to the use of the simplest color bases. The architectural palette consisted of black, dark blue, light blue, brown or mulberry, red, ochre, yellow and white.* These color elements are crude, with no apparent mutual tonal relation, so far as can be judged from the modern viewpoint, fully recognizing the fact that we are temperamentally incapable of recording a reaction to a Greek color effect equivalent to that experienced by its author. In this treatise, however, research is directed to those color activities which react upon architectonic properties rather than to those which are individually expressive. As Greek polychrome embellishment was a contributory decorative factor to architectural effect, its invariable use encourages the conviction that results obtained with color cannot have been unworthy of their exalted association; decorative ingenuity based upon sound argument alone could

*The greenish color found in many fragments was probably blue originally, as chemical analysis proves its derivation from the same form of copper as the blue; disintegration would account for the greenish blue.



EXAMPLES OF CONCAVE AND CONVEX TYPES OF MODELLING FOR COLOR.

have attained beauty with such uncompromising media.

When inherent color activity asserts itself antagonistically to artistic effect, it is necessary to discover either the nature, or the precise location, of such activity. When such reactions in color phenomena are recognized, Greek ornamental conventions identified with color effect must next be studied, to ascertain whether the origin of any of these can be attributed to observations recorded. The color conditions which call primarily for investigation might be illustrated with a colored diagram; this concerns the mutual reaction of antagonistic colors. This diagram should consist of a series of repeating geometrical or ornamental figures, after the plan of diagram D, Plate III; two brilliant and unrelated colors being arranged in alternation upon the subdivisions. To facilitate subsequent observations it is advisable that the size of the unit be not less than one inch in its minimum dimension. With the completion of this diagram a specific color activity comes into operation, through the contiguity of two unrelated and aggressive colors. Judging from the standpoint of general decorative utility, the result produced is unfitting for artistic effect. This drawing constitutes an uncompromising illustration of that form of chromatic activity which exists in a group of decorative units treated with unrelated colors possessing appreciable radiant properties. The mutual relation of these units, in their repetition, parallels approximately circumstances that prevail in architectural ornamentation. If the visual effect of this color arrangement be analyzed through prolonged and intent contemplation, an unpleasant reaction will be experienced by those who are endowed with artistic sensibility; this increases as the critical faculty is concentrated. Intensified examination will reveal the fact that artistic sensibility is irritated most violently at those points at which the two colors make actual contact. From this observation we may formulate a deduction; namely, that the most injurious result arising from this form of color grouping proceeds from actual color con-



ANTEFIX—OLYMPIA. GILT ORNAMENTATION ON BLACK.



EXAMPLES OF MODELLED TREATMENT FOR THE DEVELOPMENT OF TONE VARIATION FROM FLAT COLORS.

tacts. To test the accuracy of this observation, it is necessary to make another diagram with the same colors and decorative unit, in which all color contacts are eliminated, by leaving a uniform space between each color unit. In this second diagram, it will be found that the quality of active antagonism between the colors, which characterizes the first diagram, is considerably reduced; in fact, many colors which clash violently in diagram I. seem to acquire a vibrant quality of considerable decorative value when rearranged after the manner of diagram II. Having thus located the focal point of chromatic discord, and found a means for neutralization or elimination (according to the tonal character of the colors involved) our predetermined plan of procedure calls for a careful examination of Greek architectural detail designed for color, with the purpose of tracing a connection between any peculiarity in decorative expression, and the phenomenon noted.

The most superficial examination will reveal the connection sought. The principle of contact elimination, as the harmonizing factor in promiscuous color grouping, is demonstrated in a host of examples; the method of its decorative application embodies one of the most characteristic features of Greek ornamental expression. A species of outline, treated diversely, separates all ornamental color units in Greek polychrome detail; the majority of examples are treated as follows:

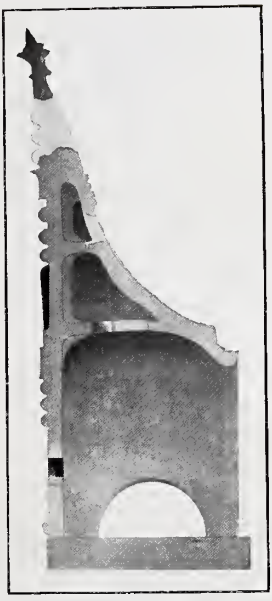
Type A The outline separating colors is raised, either rounded in section, or flat after the manner of a fillet. The structural material forming the raised outline is left uncolored in some instances; in others it is tinted. Plate IV, B.

Type B The ornamental motif is designed in such fashion that the spacing between color details is more or less uniform; these spaces have the appearance of outlines after the manner of "stencil-ties"; the ground color is left untreated. See one and two-color antifixæ, page 286.

Type C The outline is treated in a color distinct from those which it surrounds. In certain examples where a repeating motif is colored in alternating groups of three colors, the outline colors alternate correspondingly. See three, four and five color moldings.

Type D The outline is delicately channeled, or sharply sunk in narrow or broadish bands. Plate IV, 9.

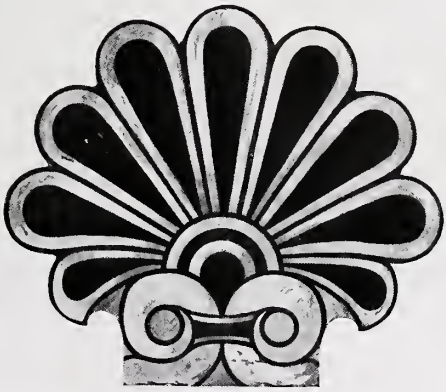
This technique of color separation in the various interpretations might be described as universal; rare deviations occur, from exceptional causes only. Incompatible tones in crude pigments were harmoniously transformed in Greek polychromy by this method, the extreme simplicity of which endowed their color illumination with qualities of strength and dignity. The fact that the Greeks considered polychrome effect to be an indispensable adjunct to their sublime structural conceptions, permits us to assume that the result was not disturbing.



SECTION OF GREAT GABLE AKROTERION OF THE HERAION. See Color Plate III.

One of the most valuable properties of this technique is the apparent incorporation of the color decoration with the architectural item. This cannot be rated too highly, when we consider that the quality of color effect differs radically from that of all other contributory factors in architectural effect.

These invaluable methods which the Greeks devised are the direct outcome of their recognition of so-called "limitations" of media, and disadvantageous phenomena. Much has been expressed regarding the cramped influence of these factors upon art expression; yet, all those decorative processes or ornamental conventions which in by-gone ages have revealed the fullest content of beauty latent in substance, originate in those "limitations." *(To be continued)*



TREASURY OF GELA—COLOR SEPARATION BY BROAD ORNAMENTAL COLOR FILLETS.



SOUTH FRONT—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.

La Pietra, Il Pellegrino, Via Bolognese, Near Florence

By Harold Donaldson Eberlein

LA PIETRA, on the Via Bolognese, to the north of Florence, has presented to the world since 1690 an imposing and dignified Baroque exterior. Prior to that date it was a typical villa of the early Renaissance. Fortunately, notwithstanding the dominating Baroque accretions, much of the early fifteenth century work remains intact and is perfectly discernible after a little careful examination, so that the structure is, in a way, an architectural palimpsest.

The Sassetti family owned the villa in the fifteenth century, a fact attested by their arms carved on many of the corbels within the house. Later it passed into the possession of the Capponi family, and in 1690 Cardinal Capponi made the changes alluded to. He it was who built the lodges at the gate, from which a long *viale* leads to the north front of the villa, the central portion of which was raised to accommodate a lofty ball room and to accord with the prevailing notions of symmetrical composition. At the same time the walled flower garden, to the east of the house, was constructed or, at least, enlarged and ornamented in the taste of the period.

One interesting instance of the way in which Cardinal Capponi's architect merely overlaid much of the pre-existing work without obliterating it is seen in the doorway of the south or garden front where, upon the *quattrocento* lintel a Baroque pediment has been imposed, leaving the earlier setting quite undisturbed. The ceiling of the *sala* affords another instance of the same sort of skin-deep remodelling, where bold plaster relief decorations were applied without at all changing the ancient vaulted structure.

The seventeenth century episode of embellishment did not affect the plan of the villa, which remained a hollow square built about a central *cortile*, and it was not until a recent date that the *cortile* was roofed over with a skylight and a circular staircase installed therein. The stuccoed walls of the exterior are of a brownish gray color, the shutters are green, and the stone trims of doors and windows are of a brown-toned stone.

The ancient garden lay-out, upon descending levels of the south slope, was unfortunately swept away at the time when the passion for *giardini Inglesi* wrought such sad havoc in Italy, but, luckily, enough traces of the former arrangement remained so that it was possible to reconstruct the erstwhile plan with considerable accuracy, and according to this plan the gardens have been restored in a successful and gratifying manner.



STEPS IN GARDEN — LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



THE VIALE—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



THE LODGE—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



NORTH FRONT—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



NORTH FRONT—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



NORTH DOOR—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



STAIRCASE — LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



SALA—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



FIREPLACE IN BALL ROOM—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



DINING ROOM—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



DINING ROOM FIREPLACE — LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



GATE IN WALLED GARDEN — LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



SOUTH TERRACE—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



UPPER GARDEN—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



SOUTH FRONT—LA PIETRA, IL PELLEGRINO,
VIA BOLOGNESE, NEAR FLORENCE.



LOWER GARDENS—LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.



SOUTH FRONT FROM GARDEN, LA PIETRA, IL PELLEGRINO, VIA BOLOGNESE, NEAR FLORENCE.

TRAINING REQUIRED FOR THE INDUSTRIAL ARTS

By
FLORENCE N. LEVY

A REPORT of conditions in the building trades, published in the New York Times, calls attention to "skilled man-power" shortage and the lack of opportunity in the United States for the training of craftsmen in this particular field. "It has been revealed," the item states, "that the shortage of skilled mechanics in the Eastern building trades is one of the fundamental reasons for the present cost of building erection. * * * In some lines there is a shortage of almost 50 per cent. of mechanics capable of doing expert work."

It is not only in the building trades that there is a lack of skilled workers, but in practically every industry in which expert craftsmanship and good design play a prominent part. Color and design are the important features in the furnishing of the home—rugs, curtains, draperies, wall-paper, furniture, lighting fixtures, architectural hardware, pottery, china, glass, silverware, etc. It is upon the harmonious relation of line and color, in other words upon art, that success depends in the dress of both men and women — costume, millinery, jewelry. Even our food becomes more attractive when packed in an artistic container with labels and outer cartons designed by an artist.

The education of the artist offers problems today very different from those of the past. In olden times the expert workmen took young men as assistants and taught them the secrets of their craft, thus building up a system of apprenticeship which lasted well into the middle of the nineteenth century. With the invention of machinery, which permitted the reproduction in quantity of the original model made by the artist, schools became necessary in order that leaders might be trained as designers and expert craftsmen.

It was in the industrial art schools of France, England, Germany, Sweden and other European countries that the best designers and craftsmen in American factories were trained. Before the Great War most manufacturers were satisfied to purchase their designs in Europe and merely adapt them slightly for the American market; in fact buyers demanded foreign designs. Between 1914 and 1918 our supply of both designs and craftsmen was cut off and our manufacturers of silks and wall-papers, of jewelry and gowns, etc., made frantic efforts to train designers and craftsmen over night. It could not be done. Some have returned to borrowing ideas from Paris because there is, they say, no talent here. In reality we have a wealth of talent in this broad country, but, like our mines, it must be developed.

The purpose of this article is not to enter upon any theoretical discussion of the need for industrial art education, but rather to bring together, in condensed form, some of the methods employed in European industrial art schools; the development of industrial art education in the United States; and an analysis of practical suggestions for industrial art education in this country that have been offered by men who have given much time and thought to the subject.

INDUSTRIAL ART TRAINING IN EUROPE

Since the Exposition of 1851 Great Britain has developed a system of industrial art education consisting of some 350

schools and 90 county museums, all fed from the South Kensington Museum in London. In London itself there is a series of general design schools and special art trade schools affiliated with the County Council Central School of Art. This last is essentially a school of production where the pupils are taught the crafts by which they expect to earn their living: silversmithing and its allied crafts; textiles; stained glass and mosaics; decorative painting, sculpture and architecture; book production; furniture; dress design; and engraving.

A British Institute of Industrial Arts was organized in 1918 by the Board of Trade and the Board of Education to raise and maintain standards. Exhibits of British artistic manufactures are being sent to South America and elsewhere and important exhibits of these goods are being held annually in the large cities of Great Britain.

Stimulated by the example of England and Japan, Germany developed her industrial art schools and museums during the twenty-five years preceding the war. An investigation of the art and industrial education of that country was made in 1912 by James P. Haney, Director of Art in the New York City High Schools, and published by the Board of Education of that city. This report describes the various types of continuation and evening schools for journeymen; industrial art schools (35) found in all the more important towns and supported by city and state; and the professional schools (24) each dealing with the education of the artist-artisan in one special subject such as ceramics, wood carving, jewelry, etc. The school of graphic art at Leipzig, the center of the book trade, is a model of practical equipment and professional instruction. At Munich the school of photography had 90 studios, laboratories, etc.

Germany had developed her traveling exhibits of industrial art so that practically any type of work was available to schools and factories. In 1911 some of the modern German applied arts were brought to the United States through the efforts of John Cotton Dana, Secretary of the Newark Museum, and after being exhibited in Newark were shown in six other cities.

In Italy there are over 200 industrial art schools, of which seven are of an advanced type. Some of these were described in 1912 in an address by Frederick H. Sykes, of Teachers College, in his plea for "Schools of the Art Industries as a New Type of School in the Public School System."

The French Government made a study from 1888 to 1897 of the industrial art museums, schools and societies throughout Europe, the results of which were published in five large volumes. This comparative study formed the basis for innovations in the French schools. Before the war there were 32 industrial art schools in France fed from over 200 schools of design.

France is planning an International Exposition of Decorative Arts to be held in Paris in 1924. An article in connection with publicity regarding the Exposition calls attention to the need for France to encourage her decorative arts because, even before the war, her imports of these objects were increasing and her exports were decreasing.

The struggle for trade is keener than ever. The factories of Germany and Japan and other reviving nations are competing with those of America for the markets of the world. It is not enough to satisfy home consumption or even to hold the present foreign markets. We must conquer new ones. To accomplish this it is necessary to do more than merely produce a sound article. It must be so artistically presented as to attract at once. Supremacy will go to the nation that can train the best designers and craftsmen. The manufacturer is, therefore, vitally interested in discovering the talented and maintaining schools from which he can draw his expert workers.

DEVELOPMENT OF INDUSTRIAL ART EDUCATION IN THE UNITED STATES

Interest in drawing and its application to the artistic industries has developed slowly in the United States. It was not until certain educational laws of Massachusetts went into effect in 1870 that

drawing became a required study in any state; even in 1909 (last statistics available) it was required in only 12 states.

The first state to have an industrial art school was Pennsylvania. One of the direct results of the Centennial Exposition in 1876 was the establishment that year in Philadelphia of the Pennsylvania Museum and School of Industrial Art, which now has over 1,300 students in its design and craftsmanship department and more than 300 in its special textile school. It was founded by citizens of Philadelphia and receives $30,000 a year from the city, for which it gives 70 free scholarships to high school pupils, and $35,000 a year from the state, for which it offers a free scholarship in each county. In Providence there is the Rhode Island School of Design, founded in 1877 by the Women's Centennial Commission, which now has an enrollment of over 1,700 pupils, out of which about 300 are supported by state funds and 100 by the city, while many are receiving instruction under the direction of the Rehabilitation Division of the Federal Board for Vocational Education. Both these schools have a special textile department, and in Providence a new wing has recently been erected which has been equipped by the jewelry trade at a cost of $15,000. These two schools stand out as the only large, well equipped, general industrial art schools in the United States.

Smaller schools following the same lines of work but on a more restricted scale are the Trenton, N. J., School of Industrial Art, chiefly devoted to pottery; and the Fawcett Industrial Art School at Newark, N. J. There are several textile schools in Massachusetts and the New York City Board of Education in 1920 opened a Textile High School.

The New York State School of Clay Working at Alfred, N. Y., is not only training technical men, but some highly artistic pieces of ceramics have been produced under the direction of Alfred Binns. An interesting productive schoolshop is the Newcomb Pottery, part of the activities of the Sophie H. Newcomb College for Women, Tulane University, New Orleans, La., of which Ellsworth Woodward is director. The best course in the graphic arts is at the Ohio Mechanics Institute at Cincinnati.

In New York City, with its 5,620,048 inhabitants in 1920, of whom 2,531,421 earn their living, there is no well equipped school for jewelers or silversmiths or bronze workers; none for potters; no school for lithographers or bookbinders; none for furniture makers, wood carvers, and upholsterers; nor is there an adequate school for the assembling art of interior decorator. Dressmaking and the household arts are somewhat better provided for. The Board of Education of New York City maintains a Free Evening Industrial Art School, but in a building used during the day as an elementary school, so that it is impossible to have any equipment. This is therefore little more than a design school. Some of the high schools, notably Washington Irving, have developed specialized design courses that lead directly into the trades. Several private schools are doing excellent work in teaching design but have few facilities for showing the industrial application of the patterns.

An industrial art survey, in progress since December, 1919, is being conducted by the National Society for Vocational Education and the University of the State of New York under the direction of Charles R. Richards of Cooper Union. Eight or ten field workers studied conditions in the artistic industries in the United States during the summer of 1920, and one went to Europe to secure information regarding industrial art schools and museums there. The whole is now being edited for publication.

During the past few years several organizations have taken an active interest in the promotion of industrial art education. The Metropolitan Museum of Art since 1917 has held an annual exhibition of goods manufactured in the United States, the designs for which were influenced by study of the Museum's collections, has set apart study rooms, has conducted classes in comparative design, and in other ways has helped to raise the standards both of the manufacturers and of appreciation by the buying public. Ex-

hibitions of American industries have recently been held at the Art Institute of Chicago, the Minneapolis Institute of Arts, and elsewhere.

The Architectural League of New York, during the past ten years, has given more and more space at its annual exhibitions to the arts related to architecture. The Art-in-Trades Club, founded in 1906, is composed of over 300 men employed in the trades related to home furnishings.

The Art Alliance of America, founded in 1914, was especially active during the war in opening the industries to American artists. For three years it conducted competitions for textile designs open to students and professional designers throughout the country; the exhibitions were held in its New York galleries, and prizes, averaging $1,500 a year, were contributed by the industries. It maintains a free Placement Section through which positions are found for designers and other art workers. The Art Center, which opened its building at 65 East 56th Street, New York, in November, 1921, is the home of a group of societies all interested in the applied arts.

The Industrial Arts Council, organized in 1919, is composed of delegates from 17 industries, representing dress, furniture, glass, greeting cards, illustrations, interior decoration, jewelry, lithography, millinery, monuments, silk, silverware, toys and wall-paper. One of the first recommendations was a survey of the artistic industries; this having been undertaken as described above, the Council has been inactive, awaiting the report of the survey.

The Chamber of Commerce of the State of New York, through its Committee on Commercial Education, is preparing to take an active part in the development of industrial art education.

SUGGESTIONS FOR SYSTEMATIC DEVELOPMENT OF INDUSTRIAL ART EDUCATION IN THE UNITED STATES

At present the matter of industrial art education seems to be hopelessly twirling in a vicious circle. The industries acknowledge the need for more and better trained designers and craftsmen and are willing to help finance the necessary schools; they cannot do this alone, yet fear that government control will create so much "red tape" that the schools will become useless. Educators and artists tell what has been done in Europe and point to the well equipped buildings as models of efficiency.

City, State and Federal authorities are slow moving, but have they been properly approached? The force of public opinion is required. Manufacturers must make known their need for well trained designers and craftsmen. If the lack of opportunity for training along these lines in the United States is proclaimed in a loud voice and many times, it will surely reach those who have power to help.

The Smith-Hughes bill passed in 1916 provides Federal funds to duplicate state appropriations for teachers' salaries and for the training of teachers. It would seem, therefore, that the greatest opportunity for the advancement of industrial art education is that industry and art should combine their efforts and bring pressure to bear on the state educational authorities, which in turn can secure Federal aid.

A well organized system of industrial art education would progress about as follows:

1. Elementary schools with drawing taught to develop appreciation, as at present.

2. In the secondary schools, technical training in free-hand and mechanical drawing and in design to be encouraged and the standards raised; the talented to be sent forward by means of scholarships furnished by city and state aid funds contributed through the industries and other private sources. That such scholarships are thoroughly practical is proved by the experience of the School Art League of New York City, which, during the ten years of its existence, has provided over 150 tuition scholarships in industrial art.

3. Design Schools to be developed in all cities of 100,000 population and over (there are 68 in the United States according to the 1920 census) through

strengthening the design courses in existing art schools, both private and public, and establishing design schools where none exist.

4. Continuation, evening and short-unit courses in design and in craftsmanship to be developed for men and women already in the trades, so as to provide apprentices and journeymen of any degree with *what* they want, *when* they want it.

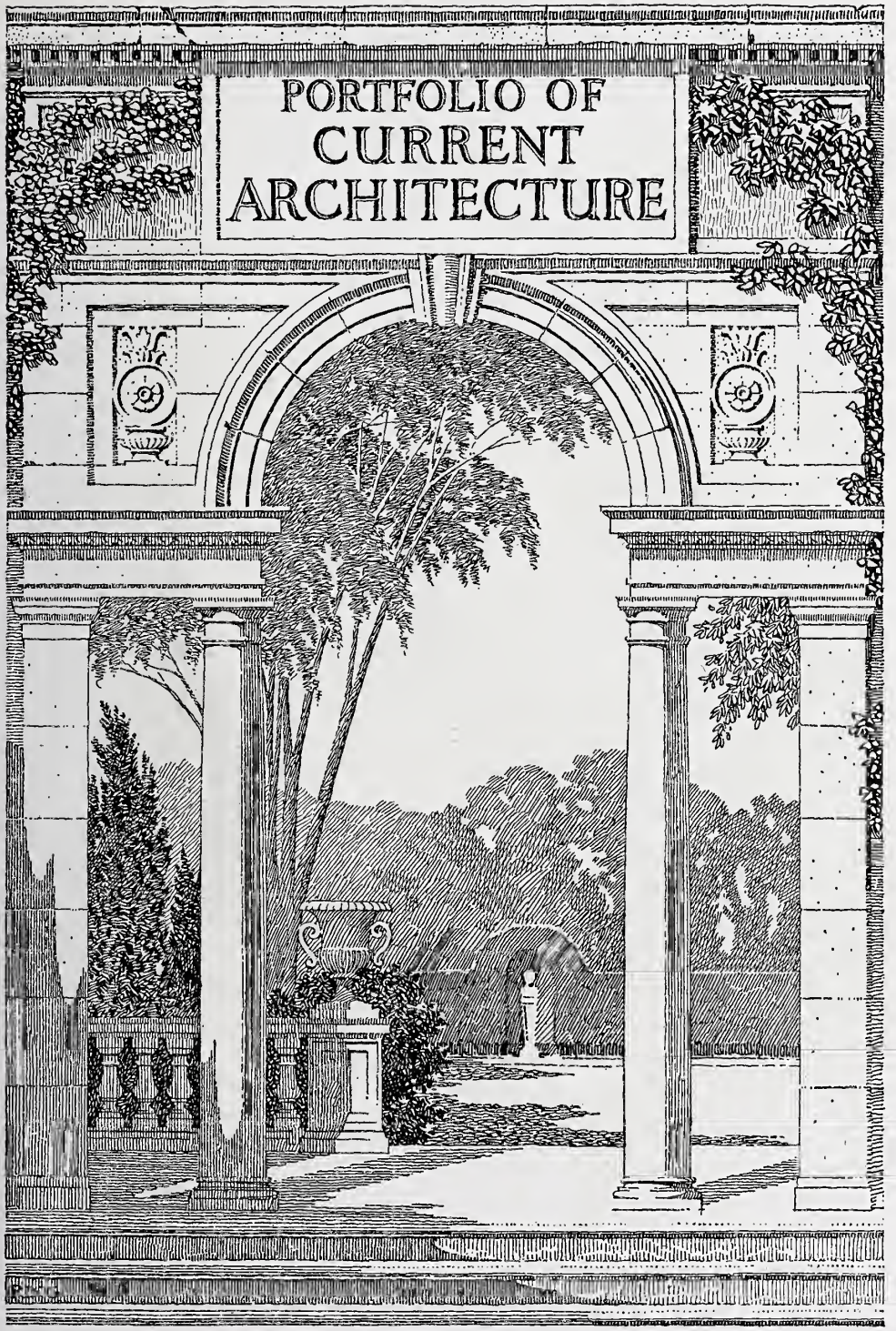
5. Specialized industrial art schools, devoted to a group of subjects related to a local industry for the purpose of training workers of all grades for that special industry. Thus there would be a chain of schools where the trades allied to the arts could be taught and where a diploma of graduation would be recognized by the various unions as tantamount to and in lieu of a certain amount of apprenticeship.

6. A National Industrial Art School with full equipment of studios and shops, museum and lecture hall, would be the central and controlling force in this system of industrial art education. It would be a professional college with its independent Board of Directors and advisory trade councils, but should be closely related to the schools of design and other industrial art schools throughout the country. Here teachers of the industrial arts would be trained, foremen and superintendents could secure special instruction, designers might take short "refresher" courses, buyers and salesmen would find special instruction fitted to their needs, etc. Charles A. Bennett, Dean of Technology at Bradley Institute, Peoria, Ill., has written a description of what he believes a National Industrial Art School should be, laying special stress upon the advantage of its being "a group of productive factories."

A general plan for financing and managing these schools of design and of industrial art throughout the country might be laid out as follows: 1. Land to be given by the city or purchased through private gifts with the aid of condemnation proceedings; 2. Buildings erected through gifts from private citizens; 3. Maintenance to be through city, state and Federal payment of teachers' salaries, endowment funds, support by trade organizations, appropriations to cover scholarships, and by means of moderate tuition fees; 4. Management to be in the hands of a board representing manufacturers in the various trades taught, the local Board of Education, trade unions, the workers whose specific needs are to be met, and the public interested in art and in education.

To accomplish this requires the co-operation of many forces, especially the manufacturers in all the trades wherein design, color, and craftsmanship play a part. The best results will come when art and education, manufacture and labor co-operate, both as individuals and through their organizations, with city, state and Federal authorities.

"Nothing in the war was accomplished until the idea of co-operation, of joint service, was driven home. Nothing in the development of a system of industrial art education adapted to the needs of the United States will be accomplished until the same lesson is applied. Let us bring into joint action all the forces that can serve to carry forward this campaign. The whole question is one of service together. We need to mobilize our forces and bring them to the aid of the arts."


PORTFOLIO OF
CURRENT
ARCHITECTURE



DOORWAY — CHURCH OF THE INCARNATION, NEW YORK CITY. ALLEN & COLLENS, ARCHITECTS.



CHRIST CHURCH PARISH HOUSE, HARTFORD, CONN.
DELANO & ALDRICH, ARCHITECTS.



ENTRANCE DETAIL—CHRIST CHURCH PARISH HOUSE, HARTFORD, CONN. DELANO & ALDRICH, ARCHITECTS.



ENTRANCE—STUDEBAKER BUILDING, BROOKLYN, N. Y.
TOOKER & MARSH, ARCHITECTS.



INTERIOR—STUDEBAKER BUILDING, BROOKLYN, N. Y.
TOOKER & MARSH, ARCHITECTS.



DETAIL—BUILDING FOR THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.
WELLES BOSWORTH, ARCHITECT.



LA PALOMA DORMITORY, GEORGE JUNIOR REPUBLIC, CHINO, CAL. MYRON HUNT, ARCHITECT.



RESIDENCE OF H. W. HARDINGE, ESQ., FOREST HILLS, LONG ISLAND. WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT.

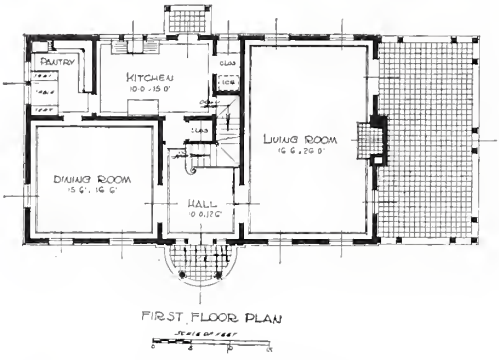


ENTRANCE DETAIL — RESIDENCE OF H. W. HARDINGE, ESQ., FOREST HILLS, LONG ISLAND. WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT.

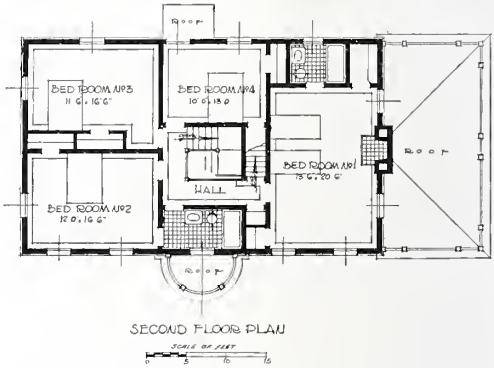


SUN PORCH DETAIL—RESIDENCE OF H. W. HARDINGE, ESQ., FOREST HILLS, LONG ISLAND. WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT.

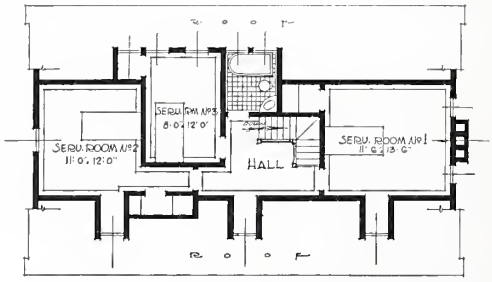




FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN

GENERAL VIEW AND FLOOR PLANS—RESIDENCE OF W. E. KNOWLTON, ESQ., TENAFLY, N. J. R. C. HUNTER & BROTHERS, ARCHITECTS.



SOUTHEAST CORNER — COTTAGE AT TADWORTH, SURREY, ENGLAND. L. STANLEY CROSBIE, ARCHITECT.



NORTHEAST FRONT — COTTAGE AT TADWORTH, SURREY, ENGLAND. L. STANLEY CROSBIE, ARCHITECT.



SOUTH FRONT—COTTAGE AT TADWORTH, SURREY, ENGLAND. L. STANLEY CROSBIE, ARCHITECT.



NORTHWEST CORNER AND ENTRANCE — COTTAGE AT TADWORTH, SURREY, ENGLAND. L. STANLEY CROSBIE, ARCHITECT.

The EAST SIDE HIGH SCHOOL CINCINNATI, OHIO

Garber & Woodward, Architects

TO develop a plot of some twenty-eight acres with an extremely irregular outline and contour, and with a variation in levels of sixty-five feet, for the use of a large and growing educational establishment: this, in brief was the problem of the architect of the East Side High School in Cincinnati.

The plot was in the heart of one of the best residential sections of the city, facing a main thoroughfare, Madison Road, from which it was separated by a deep and wide ravine of great natural beauty. Another main avenue joined the first, in front of the property, at an angle of approximately forty-five degrees, affording a view of the contemplated building site from a distance of almost a mile, and this splendid prospect was one of the principal scenic factors to be considered in the design.

After consideration of the problem, it was decided to build a group of buildings rather than one large building. The group plan shown herewith gives an idea of how this was accomplished. Buildings A, B, C, D, and E, placed about a semi-octagonal court, house the Administration, the Auditorium, the Library and all academic class rooms, lecture rooms, laboratories, etc. To the rear of these buildings, at a lower level, is the Athletic Field, with a quarter-mile athletic track and a stadium seating 4,000 persons.

On the minor axis of the Field are the gymnasia (which stand on a level high above it), and the Industrial Arts Building and the power plant, on a lower level. The power house is mostly below ground and forms merely a fence-wall between the wings of the Industrial Arts Building. A service tunnel connects the power plant with the end of Building E and extends from Building C to the gymnasia; the latter section of it is open to the use of students.

To the north is a large tract of land to be developed later as an agricultural unit.

The ravine between the Academic Group and Madison Road has been preserved and beautified by planting, and access over it is afforded by means of a foot bridge so that pedestrians only may enter the main court.

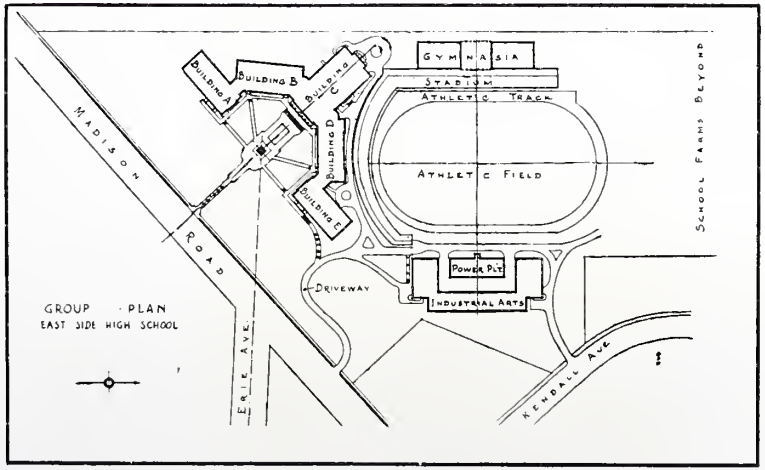
The clock tower is on the axis of Erie Avenue and can be seen from a great distance. The Colonial style was adopted as the most appropriate for the general layout and location.

So much for the architectural solution. The planning of the class rooms, lecture rooms, laboratories, etc., presented difficulties, as the various department heads had different ideas as to the proper size for classes. As one wanted fifteen, another twenty-four, and a third thirty to a class, it was necessary to compromise upon some unit as a working basis. This led to the adoption of a unit of thirty students for all classes, and the buildings are planned on this basis, each room accommodating thirty or a multiple of thirty, so that in certain instances classes can be brought together for combination lectures, etc. The four study rooms will accommodate two hundred and forty students each.

Teachers have desks in the faculty room and go to the various rooms for classes; they have no "home room"; this makes all class rooms available every hour in the school day. The school was originally planned for 1,800 students. There are now about 2,300, and by a proper arrangement of programs, the buildings can be made to take care of about 3,500.

The Lunch Room is on the third floor, above the Auditorium, and operates on

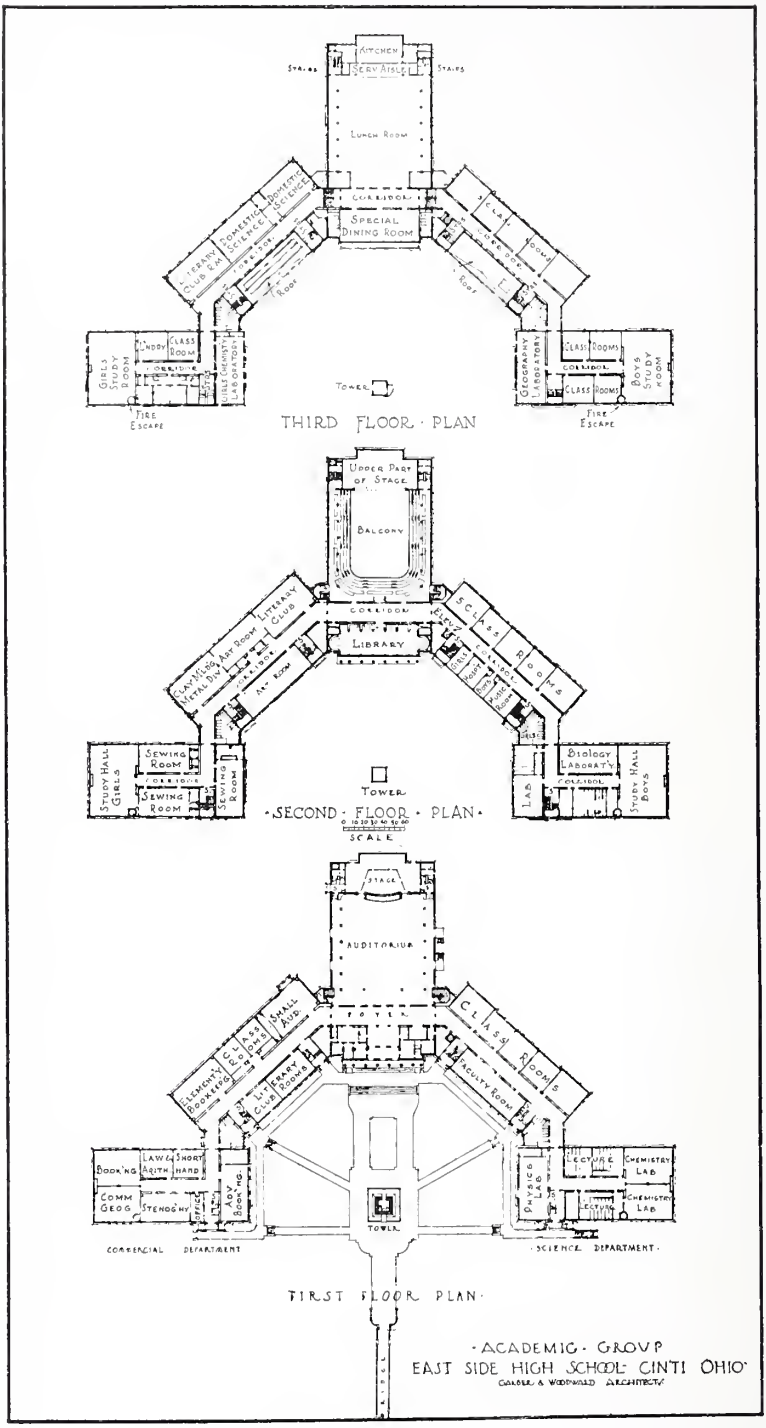




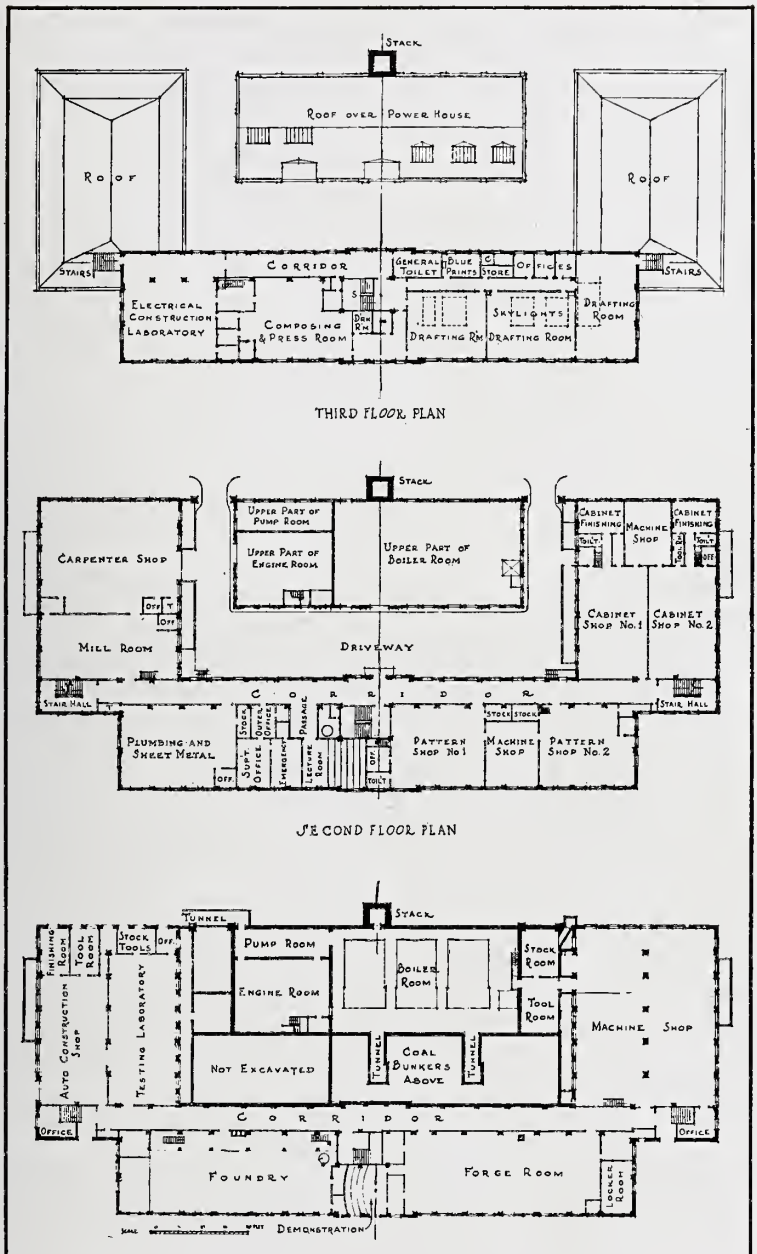
GENERAL VIEW AND GROUP PLAN—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO. GARBER & WOODWARD, ARCHITECTS.



CLOCK TOWER—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO. GARBER & WOODWARD, ARCHITECTS.



ACADEMIC GROUP—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO. GARBER & WOODWARD, ARCHITECTS.



INDUSTRIAL ARTS BUILDING AND POWER PLANT—
EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
GARBER & WOODWARD, ARCHITECTS.



FOOT BRIDGE OVER RAVINE, ACADEMIC GROUP IN BACKGROUND—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO. GARBER & WOODWARD, ARCHITECTS.



INDUSTRIAL ARTS BUILDING AND POWER PLANT—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
Garber & Woodward, Architects.



GENERAL VIEW OF GYMNASIA AND PART OF STADIUM, EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
Garber & Woodward, Architects.



AUDITORIUM, LOOKING TOWARD PLATFORM—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
Garber & Woodward, Architects.



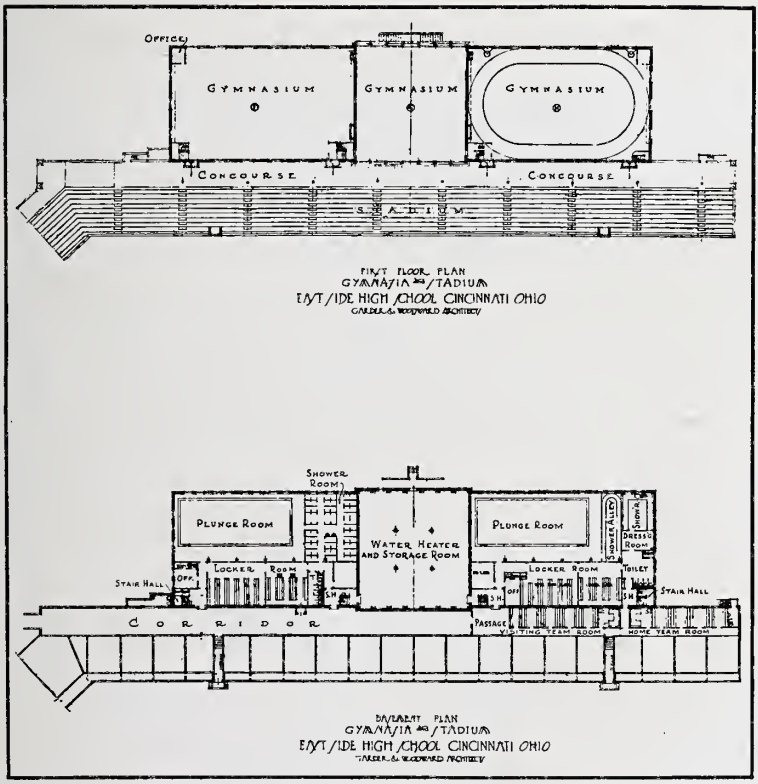
LIBRARY IN ACADEMIC GROUP—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
Garber & Woodward, Architects.

the self-service plan. It can accommodate 900 students at one time, who can be served in a period of 15 minutes. Teachers are taken care of in the special dining room over the Library on the same self-service plan, the food being conveyed from the main kitchen in bulk and kept hot.

The Gymnasia are divided, one for girls and one for boys, with an open air gym between for basket ball, hand ball and other uses in wet weather when it is desired to exercise the students in the open air.

Ample provision for swimming pools, one for boys and one for girls, is made on the floor below the gymnasium, with locker and shower rooms and offices for instructors. A feature of the boys' shower is the shower alley, consisting of a continuous shower through which the students pass before entering the plunge. This is operated by the instructor, the boys entering at the right, where the water is warm, and emerging at the left, where the water through a gradual cooling has become cold.

From this level, access to the Athletic Field is had under the Stadium, and provision is also made for visiting and home teams so that they do not use the gymnasium proper.



GYMNASIA AND STADIUM—EAST SIDE HIGH SCHOOL, CINCINNATI, OHIO.
Garber & Woodward, Architects.



FIG. 126.—LEXINGTON HALL, CAMBRIDGE, MASS.
NEWHALL & BLEVINS, ARCHITECTS.

TENDENCIES IN APARTMENT HOUSE DESIGN

PART X *"Irregular Lot" Plans*

By FRANK CHOUTEAU BROWN

WE have so far studied the development of the Apartment House plan from its simplest individual form to the comprehensively planned and grouped agglomeration of a number of individual suites of rooms arranged about one or more courtyards, and have indicated an unmistakable trend toward greater use of this type, in larger and larger groupings of suites. We have also illustrated, in the greater majority of cases, plans arranged to go upon lots of definitely rectangular outline. A few exceptions have been included, such as the "Double Court" prize design printed in December, or the "Duplex" example published last month. These designs, however, varied only slightly from the form they would have taken on a rectangular plot; they remained recognizably easy to relate to the conventional lot of generally accepted proportion and shape.

A large number of examples of apartment buildings exist where the lot of land is extremely irregular in outline, and when we encounter an apartment building adapted to go upon such a piece of land, it would perhaps appear that the method we have adopted of tracing the development of the apartment house problem would no longer apply.

Where the land outline is irregular the plan best suited to fully develop its potentialities will naturally possess equally unusual solutions and contours. Therefore, while it often may not conform to any of the classifications previously considered, it will yet be found of sufficient importance and value to be worthy of study for its own sake, even if it is necessary to place it within still another group that—for want of a better term—we may call "Irregular lot" plans.

To that point we have now come. Consideration of the typical "Courtyard" type of plans carries us by the easiest of stages to the consideration of this group of "Irregular" plans.

This group is of great interest to the realty operator because, in a great number of American cities—even those which have in the past been the closest adherents to the "Gridiron" type of street plan—there occur a certain number of lots of irregular outline, most of them on the most important and otherwise valuable corners, and very generally where an important street is entered from an angle by a street or road tributary to some side district. Such corners are likely to become centers of future intensive growth, causing a largely increased valuation of property lying immediately adjacent to this road intersection. Consequently, the two irregular pieces of land that occur where the branching road intersects at anything other than a right angle, have potentialities of unusual value. At the same time it often happens that their initial sales price is somewhat depreciated by the fact that the land does not seem susceptible of improvement in the usual manner.

Where the land may appear difficult or incapable of the usual type of improvement in the eyes of the conventionally thinking buyer, its very irregularities of contour are frequently the means of suggesting some individual and appropriate plan. Thus, by taking the best advantage of these irregularities, it is possible to work out an improvement more economical and advantageous to the owners and



FIG. 127.—BRAYLAND TERRACES, NEWTON CENTER, MASS.
Kendall, Taylor & Co., Architects.

occupants than would have been the case with a plot of land of the usual shape and the same area or cost.

These plans are, by their very individuality, less likely to be directly adaptable to another piece of land of different, while still unusual, shape. Nevertheless, study of a group of plans of this kind, while not directly applicable to any specific problem, must yet prove both stimulating and suggestive. With that factor in mind a certain number of plans of apartment groups of irregular outline have been selected for illustration. The plans cannot begin to completely cover the different types of variously shaped lots that exist or can be imagined, yet they will suggest solutions to certain problems that recur with considerable frequency in the improvement of our urban and suburban property.

The proportion of the lot was of the first importance in determining the kind of apartment plan that could be arranged to go upon it, in our previous illustrations. That factor now becomes of much greater value. The size and contour of the lot are now brought into greater prominence, as will be shown in most of the illustrations.

It may, at first sight, appear that the "Courtyard" type of plan diminishes in value when one has to do with a lot of irregular shape, but if the area of the plot is sufficient to make the use of a courtyard advisable, it will be found possible, especially upon the lot of acute angled outline, to work out a plan far more economical of space, because no loss of area in courtyards is necessary in order to light rooms that, on a square or obtuse angled lot, would require either an interior well or exterior courtyard to bring them the light, air and ventilation so important in any successful plan for this kind of development.

Most lots fall immediately into two groups—those meeting an acute angle of street intersection, and those occurring upon the corresponding lot upon the other side of this same intersection, coming to an obtuse angle. Lots of this kind are likely to occur in pairs. A third group is occasioned by the relation of a piece of property to either the inside or the outside of a street that has a sharp curve. These are the principal variations from the customary rectangular lot proportion resulting from our predilection for the "Gridiron city" plan. The lots falling

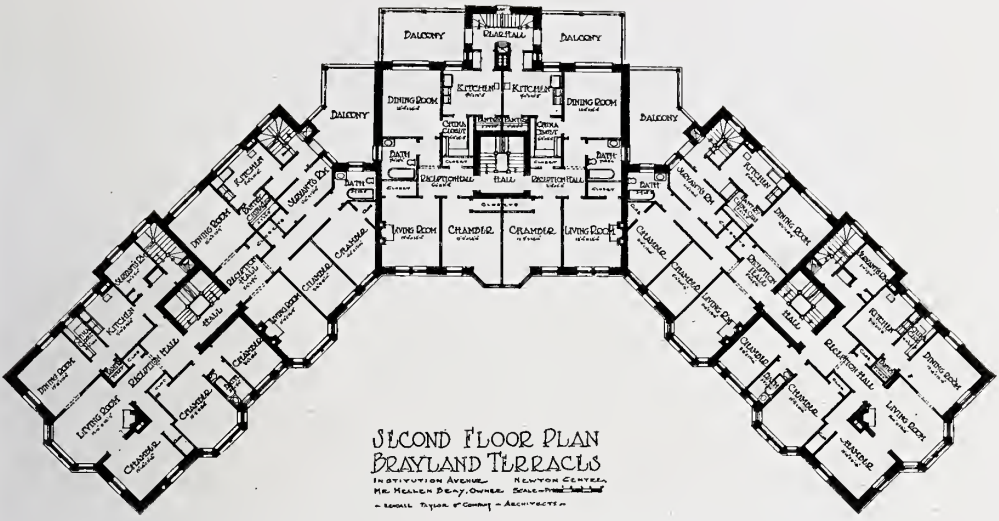


FIG. 128.—TYPICAL FLOOR PLAN—BRAYLAND TERRACES, NEWTON CENTER, MASS.
Kendall, Taylor & Co., Architects.

within these classifications are almost always on street corners—an important part of their potential value to the prospective builder of an apartment house.

Let us first take up the class of building adapted to suit a lot with corner angles slightly more obtuse than the usual rectangle, and take for our first instance one that is obviously closely related to the "Open Court" type of plan. An example will be found in Fig. 128, where an "Open Court" plan has ben adapted to a plot of land where two intersecting streets make an obtuse angle, merely by swinging outward the two side arms or wings bounding the courtyard to the right and left and thus opening out the courtyard frontages until the building appears in plan as it is here shown.

As far as the two wings themselves are concerned, and the portion of the structure that closes in the rear of the court, no appreciable alteration in the customary arrangement is necessary. The spaces occurring in the square angle at the right and left of the central section, and at the rear of the two wings, are almost entirely eliminated. In the plan under discussion, what remains of this space is given to an open balcony or porch, in connection with the service portion of the apartment in each wing.

The structure, this peculiarity excepted, develops a pleasing exterior, obviously well adapted to the size and aspect of the lot (Fig. 127), while providing very attractive outlooks from all apartments upon the suburban streets on which the property faces. The apartments themselves are simple in arrangement, the central section containing two four-room apartments to the floor, with common front and rear stairs. Each wing contains a six and a seven-room apartment. with common front but separate rear staircases, thus appealing to a large number of possible tenants. Given an attractive location in any popular suburb, convenient to street car and railroad stations—as this building is—there should be every reason for a plan of this type proving a profitable investment for the owner.

Two other examples of developments on similar shaped plots of land are selected for illustration, from such widely separated cities as Chicago and Washington. In both cases they are of a different and far more expensive type than the plan just discussed. In the example from Chicago (Fig. 129), we find a plan with two large apartments to the floor, each of ten rooms, and again it is obvious that an already well defined shape of

structure has been adapted to suit a corner lot on unequally sloping streets. In this case the original plan outline was the "T" shape, very much like the other Chicago plan that was shown in Fig. 55 last November, but the front portion has now been bent backward into the sections that front upon the two streets, while the service well has been carried out at approximately a forty-five degree angle, so as still to occupy the main line of the centre axis and secure the necessary courts on each side to light the rear rooms. As is usual in a plan of this kind, the service rooms continue back of the kitchen on each side of this rear extension. The designer has had some success in achieving regular and balanced principal rooms, leaving the more irregular shapes to be taken up by closets and hallways. A considerable area is given up to halls or passageways, under a varied assortment of names, and the left hand apartment segregates the bedrooms into the separate "block" or cube that we have previously mentioned. The rear service stairs, as is often the case in Chicago, are of the "open" outdoor character.

The example from Washington (Fig. 131), is another instance of the "de luxe" type. The angle of the street intersections is here a little more obtuse than in the last example, and the entire floor area is given up to a single apartment on each story, reaching on the upper flors a total of nine principal and seven service rooms to the apartment. A great deal of the total area is also occupied by halls and passageways. The plan is further considerably affected by the fact that the lot is bounded upon the third side by another street, along which most of the principal bedrooms are arranged; so that, actually, the type of plan very nearly conforms to the group of "rear courtyard" plans enclosed upon three sides. It is interesting to compare this building with some of the larger New York "de luxe" plans, or with one or two of those mentioned in last month's article.

As in many of the New York examples, the plan of this apartment is particularly appropriate to entertaining on a rather ample scale, and it is evidently a type that would be in demand in an international capitol. (Fig. 130.) Unlike the previous example, the corner angle is *not* indented, but this area has been put to good use in this apartment plan.

The City of Cambridge, across the Charles River from Boston, has of recent years become an intensive field for apartment developments, owing mainly to the opening of a tunnel that gives exceptionally rapid transportation to the business centre of Boston. Cambridge has, too, a peculiar city plan that results in a great many lots of irregular outline and also a great number of rather large areas of land entered only by streets closed at one end, or "Places," as they are generally called. These are so prevalent, in such pleasantly situated sections, that they are accepted as convenient and even fashionable locations for private homes. The last few years have seen many of these lots being built up into apartments, at first to help out in housing the student body in Harvard College, and latterly to meet the more general demand for family living accommodations. This series of articles has already shown a number of types of Cambridge apartments, and the rather unusual conditions existing in that city should perhaps have been explained earlier in order to help account for the somewhat peculiar and sometimes cramped tendencies to be noticed in so many of these plans.

We will now turn to one or two more examples more recent, and on a larger scale than any we have yet shown from Cambridge. These examples illustrate the utilization of both acute and obtuse angles, in the same group of apartments, under conditions that show the evident intention of the designer to make the best use possible—under the hampering conditions of the site—of the "open courtyard" idea.

The first, and the smaller, of these examples is the building known as Mather Court (Figs. 132, 133 and 136). Mather Court is located on an attractive site, overlooking the Common, in Cambridge, quite near the Washington Elm. The lot not only fronts upon a street bounding the Common, but it is also bounded by



FIG. 129.—TYPICAL FLOOR PLAN—APARTMENTS AT NO. 1367 NORTH STATE STREET AND NO. 1362 ASTOR STREET, CHICAGO, ILL.



FIG. 130.—APARTMENT HOUSE AT 1785 MASSACHUSETTS AVENUE, WASHINGTON, D. C.
J. H. De Sibour, Architect.

two streets, both of which come into the centre of the city at an angle, one forming a slightly obtuse, the other a sharply acute angle in the building. The latter street is Concord Avenue, to which another reference will be made later.

The typical floor plan of Mather Court (Fig. 133) is divided into five housekeeping apartments, all served by one main staircase and elevator, the kitchens being separately reached by means of three service staircases and lifts. The courtyard opens to the south, and is of irregular and indented shape, the projecting outlines mostly taking, on the exterior of the building, the appearance of "bays."

Of the apartments, one (on the Concord Avenue corner and at the right of the court) is of eight rooms, two others, on the left of the court and on the inner side, are of five rooms, while the two rear apartments are of four and three rooms apiece, including the kitchenette as a room. So far as the courtyard itself is concerned, this plan is an example of the tendency toward "closing in" the open side on the street by widening the street width of the two wings. In the one case there is an evident intention to counteract the slope of the street on the left of the building, and in the other to secure more area to be used for rooms in the most desirable street frontage of the plan. The circulating public corridor interferes with the apartments opening through or across the building, except in the case of those occurring on the exterior angles of street or court, or across the wings. The great irregularity of the plan has also affected the shapes of a number of the rooms, although a good proportion of the angular changes have been taken up by corridors, closets, kitchenettes, and other

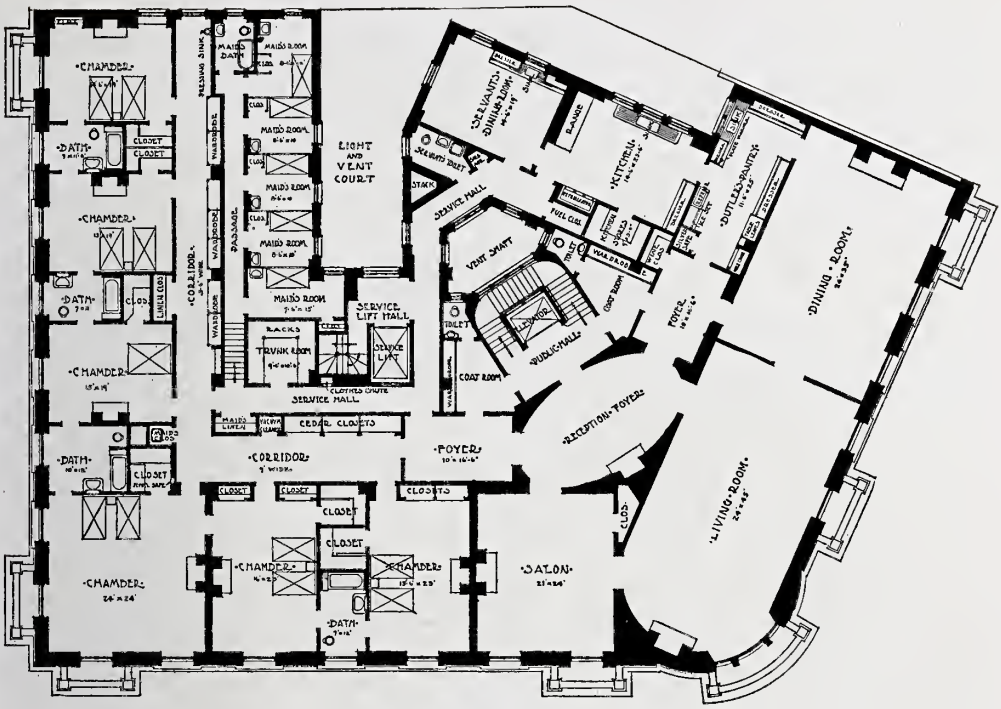


FIG. 131.—TYPICAL FLOOR PLAN—APARTMENT HOUSE AT 1785 MASSACHUSETTS AVENUE, WASHINGTON, D. C.
J. H. De Sibour, Architect.

indispensable service portions of the plan.

The architects of this building are also the architects of another building directly across Concord Avenue, which therefore shares a part of the same outlook southward over the Common. These apartments, while making one group, were, as a matter of fact, built in two sections. The portion first constructed was known as Concord Hall (Fig. 135), and occupies an obtuse corner angle, with the entrance located in a rather small court. The floor plan shown gives six apartments, all entered from a common main hall and elevator. The service portions are reached by means of four service staircases and lifts. The largest apartment is again on the principal corner, and has beside it a three-room doctor's office suite. This doctor's office lies along the right side of the court and along the opposite side of the courtyard is another doctor's office suite, with a four-room living apartment beyond it. There are also two small suites, of three and four rooms respectively, on the inner court and angle. The kitchens and the kitchenettes have again been included in this computation.

The newer portion, recently completed, is worked out upon a different idea. This structure, known as Lexington Hall, is upon an acutely angled lot, with streets upon the two principal faces and a small court, utilized in common between this building (Fig. 137) and the structure that we have just examined. The corner angle is occupied by a four-room living apartment, which can be rented and used in conjunction with the three-room apartment located at the right of it if so desired. There is another three-room living apartment upon the slightly recessed court along the sloping street; and another, also of three rooms, facing out upon the court at the right of the Concord Avenue front. The latter apartment is so planned that it can also be increased in size by adding to it the small single room and serving closet apartment located immediately back of it. This room, and the



FIG. 132.—MATHER COURT, CAMBRIDGE, MASS.
NEWHALL & BLEVINS, ARCHITECTS.

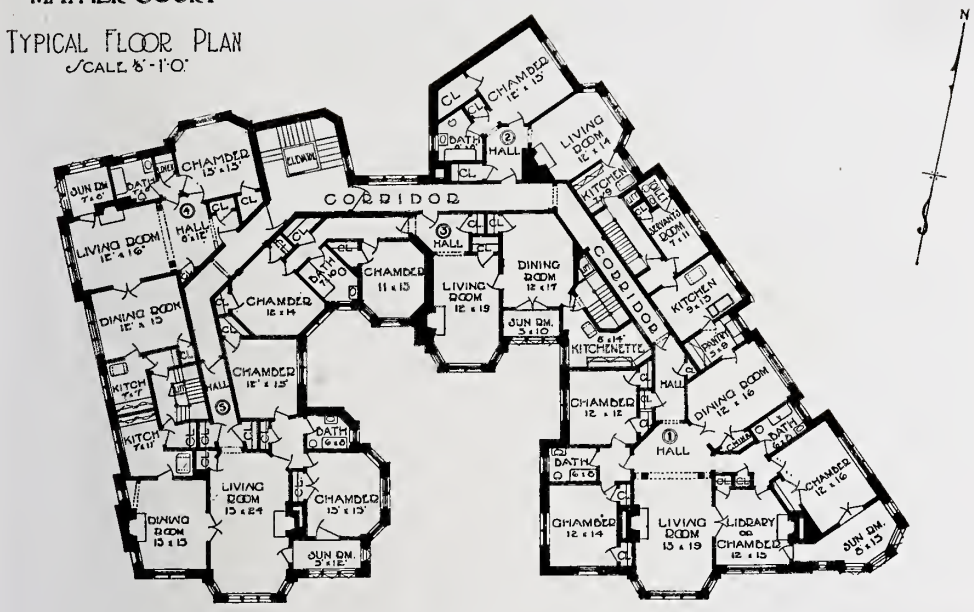


FIG. 133.—TYPICAL FLOOR PLAN—MATHER COURT, CAMBRIDGE, MASS.
Newhall & Blevins, Architects.

two between it and the side street at the left, are planned to make use of that favorite western invention, the swinging bed that can be closed into a closet in the daytime. These two rooms are also so arranged that they can be rented together to one tenant, if desired.

This is, among all the plans we have seen, the most flexible from the point of view of the rental agent and the tenant. It can be divided and sub-divided to meet many different kinds of requirements; combined to form large, or divided to make small, living units. In internal arrangement, and in the ingenuity of the means by which all three of the service staircases are clustered on the inner spaces surrounding the main central stairs and elevator, this scheme is particularly worthy of the study and attention of those interested in similar problems.

All three of these plans are necessarily complicated by the irregularity of the land to be developed. Their designers have made the utmost possible use of all the exterior wall faces, upon streets or outlooking courts, that could be wrung from the natural advantages of the sites. A plan of many angles and irregularities was the inevitable result—angles that are well enough adapted and made use of in the room shapes and outlines, in the main, but that must, nevertheless, make the building construction of these buildings run to a higher cost per foot than would otherwise have been the case.

To offset this added cost, we can fairly estimate in many cases a lower cost for the land, because of its apparent development difficulties, and a larger rental return per room, when these difficulties have been successfully solved, owing to the greater amount of street frontage and outlook obtained for the tenants, particularly with the lot on the acute angle.

Externally, these structures cannot be made so attractive, perhaps, as in more conventional circumstances. In all the exterior views of these buildings, it will be seen that the designers have frankly



FIG. 134.—CONCORD AND LEXINGTON HALLS, CAMBRIDGE, MASS.
NEWHALL & BLEVINS, ARCHITECTS.



FIG. 135.—TYPICAL FLOOR PLAN—CONCORD HALL, CAMBRIDGE, MASS.
Newhall & Blevins, Architects.

undertaken to make a virtue of a necessity, and once having adopted the exterior bay as an expression of the plan-type, they have used it as consistently and thoroughly as possible. The result has been, of course, to add apparently even greater height, by introducing so many perpendicular members into a façade already rather small in scale, and further broken by the greater or less indentations of the courtyards employed as the major elements. As these three structures mentioned are all of six stories and basement (the ultimate limit of height to which it would be expected that a staircase service approach could be utilized without separate elevators) the emphasis of their perpendicular lines becomes all the more marked, as in Fig. 134.

In this view a portion of Mather Court may be seen extending beyond the left-hand-margin of the illustration, Lexington Hall being that portion farthest away and without awnings, beyond the telephone pole, and Concord Hall, the two remaining right-hand sections of the group. A portion of the Concord Hall group can also be seen at the right of



FIG. 136.—MATHER COURT, CAMBRIDGE, MASS.
NEWHALL & BLEVINS, ARCHITECTS.



FIG. 137.—TYPICAL FLOOR PLAN—LEXINGTON HALL, CAMBRIDGE, MASS.
Newhall & Blevins, Architects.

the Mather Court apartment in Fig. 132.

In the plan of Concord Hall, Fig. 135, the outline of Lexington Hall is shown beyond the walls first built, while in Fig. 137 the outline of the Concord Hall building is indicated in the same way at the right of the courtyard.

Another and quite different type of solution is offered in the Lombardy Apartment (Fig. 138), where an acute corner angle between two streets is improved with a structure having four apartments to the floor, one of six, two of five and one of four rooms. All are served by a single main staircase, and a very small amount of public hall area. Indeed, the manner in which the waste of area in passage space is avoided in this plan is one of its most interesting details. The separate "block" of sleeping rooms, entered from a small common vestibule from which the bath and the living room also open, is the essential technical means, although employed in a less geometrically evident fashion than in examples previously shown. Again, as in the first plan illustrated in this article, the main hall and staircase is placed upon an axial line at right angles to the corner angle of the building.

As in other of Mr. Friz's apartments, we can see from the exterior photograph how irregular land contours have been welcomed by the designer, and made to give him additional rentable space; in this case by the additional apartment with individual entrance found to exist in the basement story, at the left, but above the ground level. Sometimes the irregular and much broken surface contour of an otherwise desirable lot, will be accepted by the seller as a disadvantage and by the buyer as an available asset, though it must be at once obvious

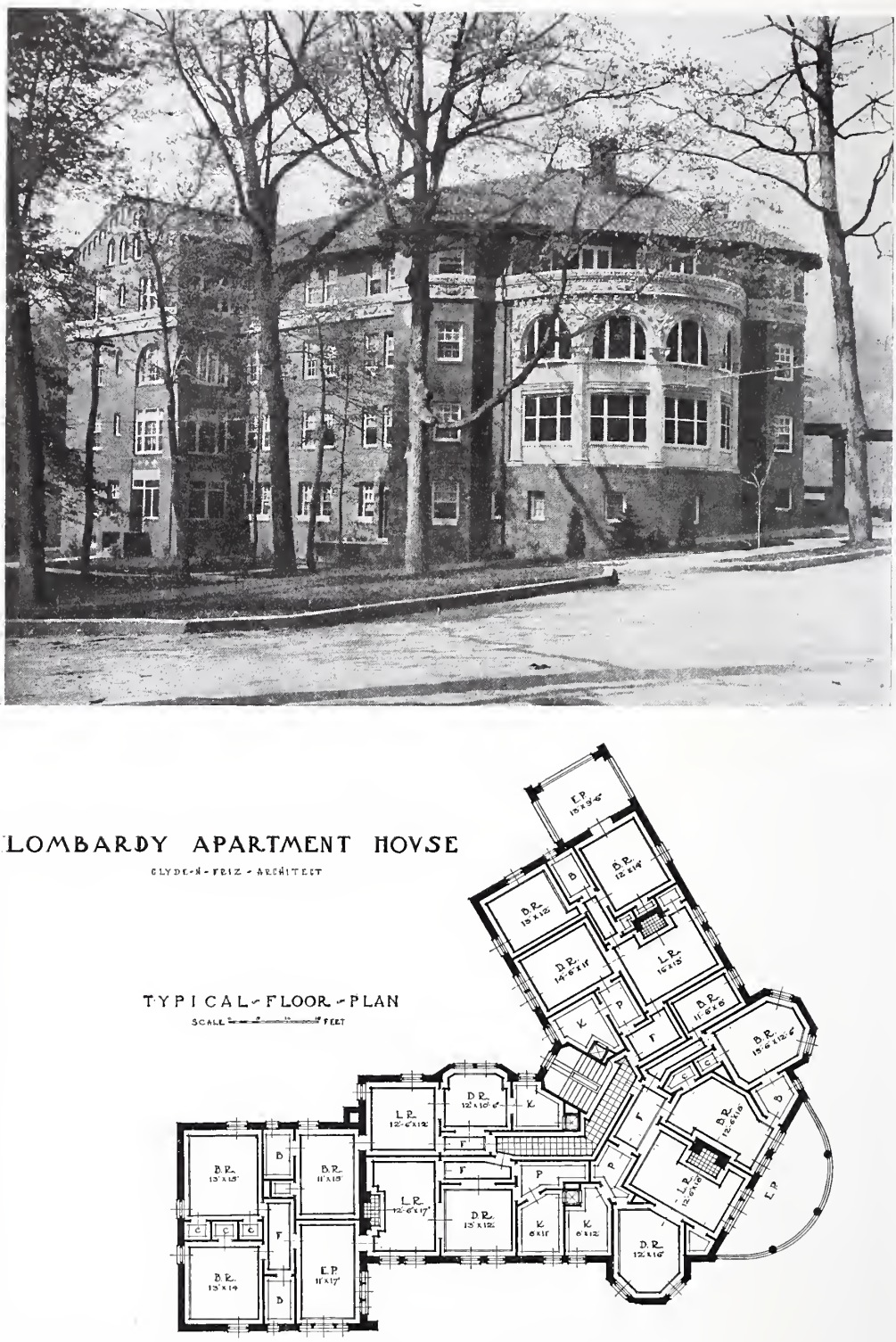


FIG. 138. — EXTERIOR AND FLOOR PLAN OF LOMBARDY APARTMENT HOUSE, BALTIMORE, MD.

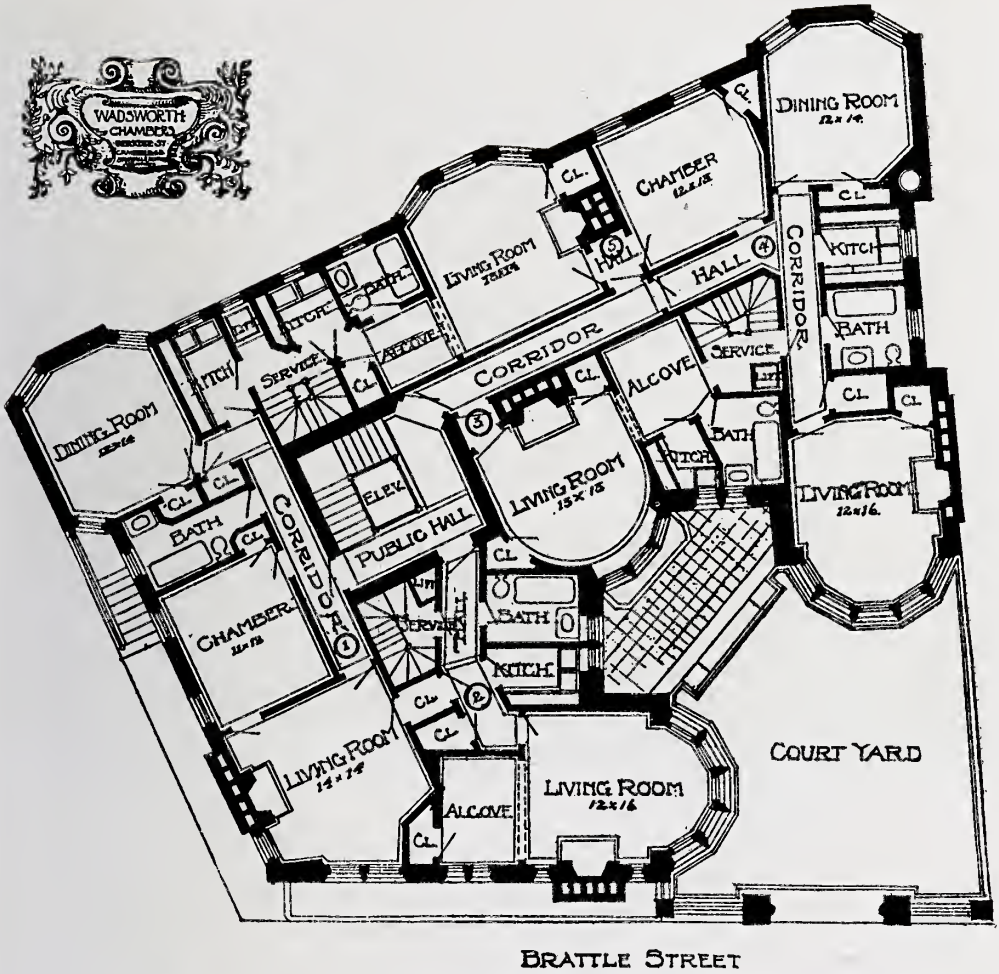
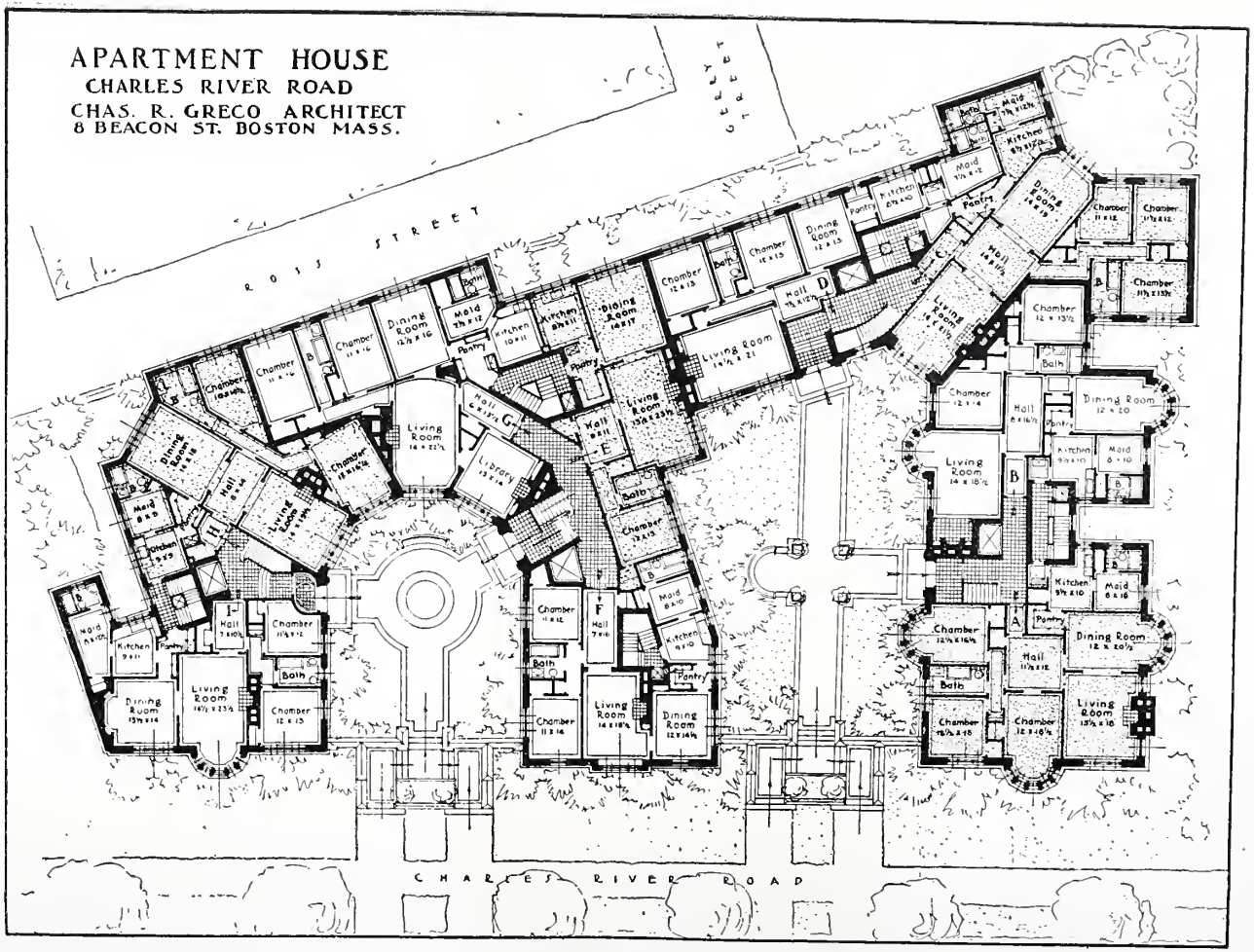


FIG. 139.—TYPICAL FLOOR PLAN—WADSWORTH CHAMBERS, CAMBRIDGE, MASS.
Newhall & Blevins, Architects.

that it will only be possible to capitalize it by utilizing a novel and unconventional plan arrangement for the structure to be developed. Other plans by Mr. Friz, already shown in earlier articles, have been distinctive in illustrating his ability at making use of this resource, in nearly every example.

An extreme instance of an unconventional lot, with the problem of its plan development still further complicated by its small total area, is indicated in Fig. 139. This is also offered as another type of the irregular lot problem. This irregularly shaped lot is *not* upon a street corner. The only street frontage is, as a matter of fact, along one of its smallest sides. While the lot has four sides, they are all at unusual angles; angles which have been faithfully followed by the plan outlines, except at one corner on the street, where an indentation taking the form of a small and restricted court has been introduced by the architects.

The comparatively small floor areas of this plan have, by intensive study, been divided into a number of living apartments, using one front staircase and elevator and three backstaircases and lifts. There are two three-room, bath and kitchenette suites, and three living-



FIRST FLOOR PLAN — SUITES INDICATED BY SHADING

FIG. 140.—APARTMENT HOUSE ON CHARLES RIVER ROAD, CAMBRIDGE, MASS. CHARLES R. GRECO, ARCHITECT.



FIG. 141.—EXTERIOR VIEW FROM ACROSS CHARLES RIVER—APARTMENT HOUSE ON CHARLES RIVER ROAD, CAMBRIDGE, MASS.
Charles R. Greco, Architect.

room-alcove, bath and kitchenette apartments. One or two of these can be interchangeably related to portions of the larger apartments, or a room of the latter can be divorced from its associates and added to the resources of the smaller suite—thus incorporating some of the virtues of flexibility already indicated in one or two earlier examples, including Fig. 137 in this month's article.

Another and larger instance of an apartment planned to meet the irregular angles of an interior lot (although in this case the site did offer the advantage of an outlook upon a road at the back of the structure) is found in Fig. 140. The apartments here, as accords with the lot, are larger—nine suites in all—one of eight, two of seven, five of six and one of four rooms, and baths. The structure is arranged around and between two courtyards giving on the principal frontage on the Charles River, each courtyard having two entrances leading to two, and in the one case, three apartments on each floor. This method has made it possible—in connection with the deep indentation of the courtyards themselves—to open every apartment through from one to another side of the building, so that the matters of air, draughts, light and outlook for the occupants are unusually well provided for.

To summarize this month's article: the lot of irregular outline, while costing more to build over—on a square foot basis—than the rectangular piece of land, yet oftentimes plans out to better advantage than the conventionally shaped lot, especially as to utilization of the full land area.



DETAIL OF CRUCIFIXION WINDOW,
SALISBURY CATHEDRAL.
DESIGNED BY REGINALD BELL.

STAINED GLASS *in the* "WARRIOR'S AISLE" OF THE NAVE *of* SALISBURY CATHEDRAL

IT is intended that the north aisle of the nave of Salisbury Cathedral be known as the "Warrior's Aisle" and be devoted to memorials of the war. An important feature of this scheme is the filling of all the windows with stained glass. The stained glass artist, Mr. Reginald Bell, of the firm of Clayton and Bell, has been entrusted with this important part of the work.

The aisle is lighted by eighteen fine lancet windows, arranged in pairs, five pairs east and four west of the north door. As none of these already contains any painted glass the opportunity presents itself for a scheme of windows on a large scale, designed as one complete and harmonious whole, unhindered by existing windows of various dates and conflicting styles.

The pervading idea of the whole scheme is, "Devotion," "Sacrifice," and "Victory," expressed by figures scriptural and historical, typifying the highest forms of service, devotion to duty and self-sacrifice.

These figures have been designed as a great procession moving toward the East and leading up to the easternmost pair of lancets, one of which contains the "Crucifixion" (the supreme sacrifice), the other, "Christ enthroned in Glory" (victory over death).

So far as can be discovered, no instance exists of a procession of figures extending through a long range of windows, though this arrangement in sculptured friezes and wall paintings is well known.

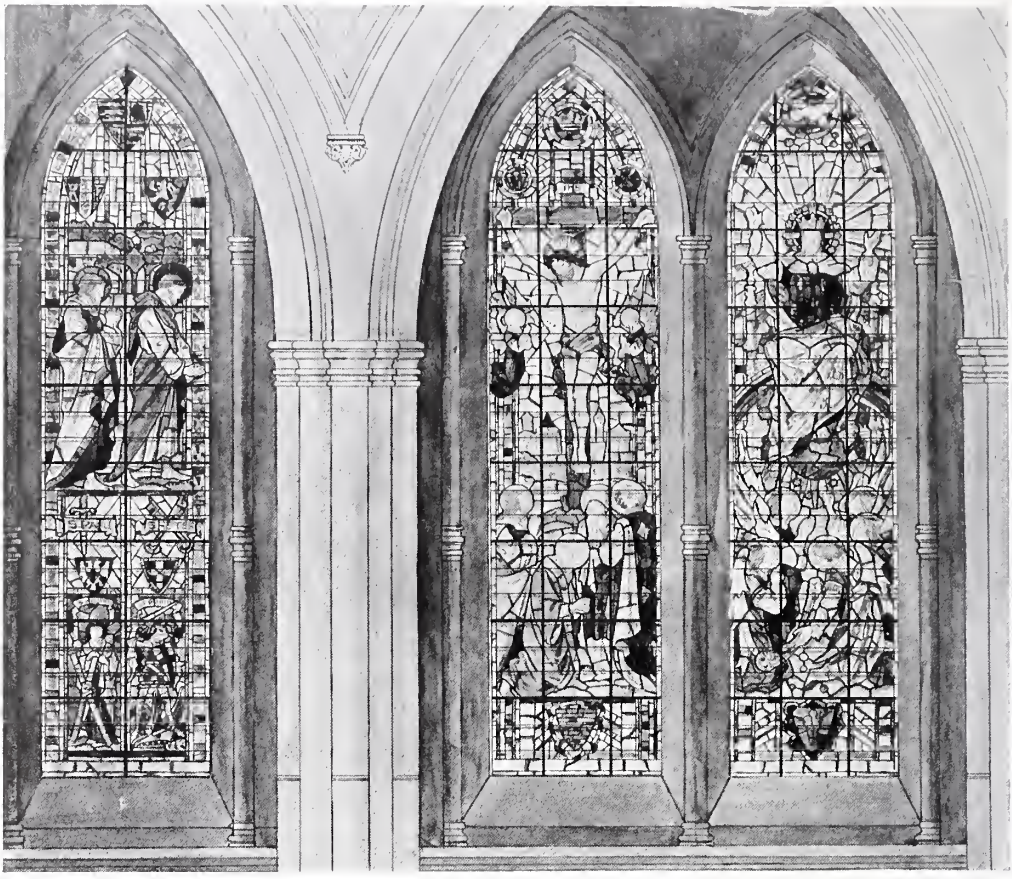
One of the functions of painted glass is to act as a curtain, softening and diffusing, as conditions make it advisable, the glare of white light. This glare gives the nave of Salisbury a rather hard and severe appearance.

To accomplish the desired effect without darkening the interior Mr. Bell has adopted a very silvery scheme of color with a large proportion of white glass, the varied tints of which have been carefully combined by the artist from his observation of the old work in the south transept of the choir for which Salisbury is famous.

The first two windows were completed in time to be dedicated during the celebration of the seven hundredth anniversary of the Cathedral on June 24, 1920, at which Dr. C. H. Brent, Bishop of Western New York, preached a very fine sermon. The easternmost of the two contains the Christ seated on the throne, the right hand upraised in blessing, the left holding an orb. The figure is crowned and dressed in a mantle of white and gold over an underdress of ruby glass patterned with white. At His feet is the globe of the earth, above, the rainbow showing through the base of the throne. From behind the figure radiate rays of glory showing up against a background of pale blue which fades into white above and below.

In the head of the window hovers the Holy Dove. Below are grouped adoring angels whose robes give an effect of broken color in contrast to the figure above. In the base of the window is a shield bearing the arms of the Cathedral, a Madonna and Child in gold on a ground of blue. Below in gold letters the text: "God so loved the world that He gave His only begotten Son."

The next window represents the Crucifixion. The figure of Christ on the Cross occupies more than half of the window, while, on either side, an angel kneels in prayer. At the foot of the Cross are grouped the three Holy Women and St. John. The Virgin Mary kneels in the foreground, with a robe of pale blue which counteracts the rich ruby and gold cloak of the Mary Magdalene on the right. In the top of the light ap-



PART OF ORIGINAL HALF-INCH SCALE DRAWING — MEMORIAL WINDOWS IN WARRIOR'S AISLE, SALISBURY CATHEDRAL. DESIGNED BY REGINALD BELL.

pear a crown and the emblems of the Passion. In the base is the shield of the old city of Sarum, four gold bars on a blue ground, and below the text: "He that overcometh, to him will I give to sit with Me in My throne."

These two windows, being overshadowed to a great extent by the buttress of the transept, present an interesting problem to the glass painter in avoiding the too common fault in a light window of looking thin and weak when the importance and meaning of the subject demands a certain depth of handling, though the general effect is to remain silvery.

This work is a serious attempt to infuse more life and breadth into the conception of stained glass as a branch of design.

The accompanying reproductions of some of the lights, both in whole and in detail, give an excellent idea of the general design and the individual expression of the artist.

Unfortunately the great beauty and richness of the coloring is absent in the reproductions, but those already familiar with Mr. Reginald Bell's work will be able to form an opinion of the magnificence of these windows, the design for which has been on exhibition during the spring of 1921 at the Royal Academy, Burlington House, London.



STUDY FOR FIGURE OF THE MADONNA IN CRUCIFIXION WINDOW, SALISBURY CATHEDRAL.
Designed by Reginald Bell.



NEW TYPE OF BEAR DENS BEING DEVELOPED
BY THE ST. LOUIS ZOÖLOGICAL GARDENS.



PARK ARCHITECTURE

ZOOLOGICAL GARDENS



By Horace W. Peaslee

It is nearly a hundred years since the first great zoölogical park was established in Europe, and for over fifty years most of the large cities have vied with each other in their collections. In the United States we are just on the threshold of a great zoölogical development. (The Philadelphia Zoo is in the half century class with Cincinnati and Washington, following closely.) New York has established one of the great collections of the world. St. Louis has a two-million-dollar program. Chicago is starting with a clean slate and a large ideal. Nearly every city of any pretense features some animal exhibit. With radically different policies and details confusing the situation, it is worth while to consider carefully the work that has been done in this field and to test it by the constructive criticism of experts.

IN the study of a subject as complicated and as comprehensive as the design of buildings for zoölogical parks, there are several methods of approach. One might take the animals "two by two, the elephant and the kangaroo" and detail their peculiarities as affecting the architectural design of their individual quarters. Discussion along this line, however, involves constant repetition corresponding with the overlapping of related species. Possibly the simplest arrangement for brief treatment is to approach the subject from the point of view, first, of the public as casual visitors; second, of the institution as reponsible for the maintenance of the exhibits.

The first thought of the visitor is to see the animals, to get about easily and with the greatest return for his effort. The designer must therefore first study the general layout of the park as a means to effective circulation.

DISTRIBUTION AND CIRCULATION

The average zoölogical park in so far as arrangement is concerned apparently "just growed." It started with a small collection, added to from time to time as popular interest waxed and support was forthcoming. This method of growth forestalled the development of a comprehensive plan. Another factor seriously interfering with orderly grouping is the desire to take advantage of topography, forestation, orientation, prevailing air currents and convenience, as each may lend itself to the housing of any special group. The result is often a collection of detached units with connecting walks.

Without constant reference to a guide book it is difficult to find all the exhibits, and a complete round means continual retracing of footsteps for the visitor.

In some of the continental zoölogical gardens, one finds the other extreme. The buildings, corrals and runs are so interrelated by paths and barriers and so supplemented by arrow-marked plans that it is difficult to get out of the scheme when once started.

Somewhere between the two extremes, it should be possible to devise an arrangement to eliminate the awkward features of both. Even with an informal spot-adaptation, there can prevail a main line of circulation which by reason of its size or direction will dominate even the untutored inclination. Buildings or units can be related to this, even with auxiliary or divergent lines, in such a way that the tendency will be to return to it rather than to leave it. If there is doubt in the mind of the planner as to which route visitors shall take, this doubt is going to be echoed and amplified for every holiday group that comes to a forked walk.

As applied to general grouping, the same rule would hold for one or a dozen entrances. Any entrance should lead directly to a major line of circulation instead of forcing the pedestrian to decide between walks. In a minor way, any building should be designed so that passage through will rejoin the main route. If a circular corral is to be inspected from the circumference, the enclosing walk may be tangent to the principal route, insuring return to the starting point.

Taking up the question of entrances, we find one park in this country featuring a splendid group of buildings to form an entrance court. There are five other entrances through which probably ninety-five per cent. of the visitors arrive. The court is a fine conception, but comparatively few people use the grand steps and thus receive the intended impression. Every minor entrance offers an indifferent first impression and a series of alternatives as to route. A somewhat similar situation exists at Marseilles, where a street car connection to a side entrance is preferred to the much more striking grand approach through the Palais de Longchamp.

In the first of the examples just cited, we find a great structure placed transversely across the park end of the court, with entrances on the cross axis. The description states that "through its position in the general plan, it closes a wide gap and effectively links together the northern and southern halves of the establishment." However, failure to function properly, due to lack of major plan considerations, is evidenced both in the *culs-de-sac* for massed spectators in each end of the building and in the use of the cross axis as a thoroughfare to such an extent that a long paragraph occurs in the guide book warning against such practice!

A counter situation exists in another large group, where a projected museum-administration-auditorium building will block the main approach. Miscellaneous buildings are disposed to right and left beyond it amid a pattern of paths. Three buildings occur on the main axis. In a corner of the park is a unique naturalistic group, the extension of which will be the feature of the park. It is unfortunate that the opportunity should be lost for a splendid first impression by a fine approach and harmonious relation of buildings, and that with an unprecedented appropriation for its development the naturalistic display should not be emphasized by position instead of minimized by an incidental site in unpleasant comparison with buildings and formal landscape effects.

These elements of general plan are by no means aesthetic considerations affecting only a nature attuned to academic ideals; nor are they limited to hazy impressions forced upon a public that prefers to see real animals. They vitally concern the public in enabling it to make its rounds of inspection with the least possible effort—an important point, since tired and tiring children are usually involved. They concern the park authorities in directing traffic along certain lines, preventing cross lines and confusion of movement, and in getting the maximum returns from appropriations usually inadequate.

The designer who really wants to get

the public point of view can do no better than to become a part of a representative crowd on a holiday, preferably sponsoring a member of the class which constitutes a very large percentage of the visitors at a Zoo—a small boy. He will soon find that the boy is continually calling attention to the fact that he cannot see anything; there is usually a massed crowd in front of the very exhibits he is most interested in, especially the monkeys, bears, lions, tigers and miscellaneous cubs. The insistent demand of children to be lifted to the top of a rail or radiator, or these lacking, to a shoulder, naturally leads to a study of floor and cage levels. In some exhibition houses with cages on one side only, such as the London and New York lion houses, a raised platform with seats is provided along the side of the building opposite the cages, from which visitors may study the animals over the heads of the promenaders. This, however, does not help the situation immediately in front of the cages. It seems a feasible scheme in buildings certain to draw large crowds, to provide two or three breaks in the floor level before the cages, supplemented with sections of railing so that visitors may move along comfortably on different levels. Even without crowds, it is apparent in many instances that cage floor levels are often needlessly high for comfortable observation by children. It is unfortunate that limited funds should require the display of smaller animals in double deck cages, as these little animals make a special appeal to children.



ELEPHANT HOUSE, NEW YORK ZOÖLOGICAL GARDENS.
Heins and La Farge, Architects.
Elephantine in outline, opening and detail, and in pleasing contrast to the multi-minaret house in the Berlin Gardens.

The opposite extreme must be guarded against in quarters for water animals. One hippopotamus tank observed is so deep and poorly lighted that half the water surface is concealed from view. In this same pool, incidentally, the descent from the stall is so close to the public space that spectators are showered with water when the animal emerges from the tank. Placing the runway on the far side of the pool would have avoided this and at the same time have given a better view.

Notwithstanding such drawbacks, the public always wants to see the animals at the minimum distance. Half the reason for the cage bars is to keep the public out and protect the animals. The designer must keep in mind in adjusting the guard rails not only convenience of service, but prevention of injury to the animals from overfeeding by the overfond public. This distance will vary less in the case of small animals which must be seen at close range than in the case of an elephant with an inquisitive trunk. The detail of the barrier depends upon the character of the exhibit. A radical departure was made at the time of the construction of the New York lion house in the substitution of steel mesh for the vertical bars which had previously been accepted as a matter of course. This mesh offers little interference to the view although minor improvements might be made in the detail of its reinforcement. The mesh idea may be carried to extremes, however, as is illustrated by a letter published in a Dutch paper from a Netherlander who visited a Texas Zoo. He precipitously left the place upon discovering that the lions were held in captivity only by "chicken wire." The report

commented upon American assurance and optimism.

LIGHTING

Lighting of display buildings is as important from the public's point of view as from that of the exhibits. Both extremes are found. In one instance a display building was designed along the lines of a conservatory, producing an unpleasant glare and surplus heat. In another a domed ceiling was used without overhead lighting of any kind and as a result the building is gloomy most of the day. In buildings with cages on both sides, the public space may be lighted either overhead or by a clere-story, and the cages by skylights. When a skylight is supplemented by a flat ceiling glass, a considerable loss of light occurs from dirt accumulation on the upper surface of the ceiling glass, which is difficult to clean and often neglected. Where the cages are placed on only one side of the building, windows may be placed opposite together with either of the overhead lighting arrangements, or if the cages are included within the main walls of the building, skylights may be used only above the cages. As far as general effect is concerned, clere-story lights are more agreeable than a long center skylight. In no case should the observer be forced to look directly into the light.

HEATING AND VENTILATION

The main criticism that a designer will hear of zoölogical buildings concerns ventilation. Even with most scrupulous care on the part of the attendant in the cleaning of the stalls and cages, there is normally an offensive odor peculiar to wild animals which must be considered in addition to the usual problem of ventilating any place of assembly for large crowds. Again, temperatures necessary to tropical animals are often disagreeable to people burdened with overcoats. Here follows a complication of problems for adjustment according to the individual case. Ventilation is not always improved by the heating arrangements. Heating pipes do not logically form a part of a guard rail in front of a battery of cages. They are uncomfortable for visitors and they are not agreeable to look upon, and the placing of exposed piping in close proximity to cage drippings contributes to the unpleasant odor. The heating and ventilation system concealed by grilles in the lion house in Lincoln Park, Chicago, is an especially good solution, not only from an aesthetic point of view but also from the very practical one of sanitation.

It must not be overlooked that foul air outlets are only half of ventilation; fresh air intakes are equally important. The fresh air that comes in through entrance doors alone is inadequate. A feature of the primate house in the New York Zoölogical Park is a fresh air intake below the cages and a foul air outlet above them which carries off odors through the cages instead of projecting them into the public space. A new device is now being tested in different institutions, which gives promise of solving this and other problems of air purification.

In studying the problem of heating and ventilating, it should be remembered that buildings of large plan with high or vaulted ceilings and ample width are much less liable to unpleasant atmospheric conditions than buildings of meagre planning.

The elements of crowding, inability to see, heating and unpleasant odors are the main things that the public has to criticise about the interior of zoölogical buildings. Outside, one will hear adverse comments if the animals are at too great distance from the observer, a condition which the designer may precipitate by placing the corral shelters around which the animals congregate in the center of a large enclosure instead of within a reasonable distance of a public walk. One other criticism is heard and of recent years it has been gathering weight. This is a protest against the close confinement of animals in cages. It has caused a revival of the so-called "barless dens" along the lines initiated by Carl Hagenbeck in his Stellingen park. On this subject there is the keenest interest among all concerned —the public, the institution and the architect.

"BARLESS BEAR DENS"

The Hagenbeck idea as developed in many German cities and in the Borghese



TIGER HOUSE, ZOÖLOGICAL GARDENS, WASHINGTON, D. C.
Architects, Glenn Brown, Victor Mindeleff.
The low, picturesque design makes for an appropriate exterior, but causes poor ventilation and congestion of space within.

Gardens in Rome is the use of artificial rock barriers with naturalistic dens and walled moats. As used abroad, it is essentially spectacular and a feature of what are really amusement parks. A valid objection to it is that the animals get so far away from the spectators that their size and peculiarities cannot be appreciated. The rock work is obviously cement and of little artistic merit. The modern adaptation of the idea is essentially American. Denver began with moulds from actual rock formation and casts of colored aggregate so well done as to pass for natural formations. Earth covering with clever rock plantings complete the illusion. St. Louis started out with a bear den costing $125,000. Others followed until the unit cost is down to $65,000. Some thirteen in all are projected. Chicago, about to launch a great zoölogical undertaking, is tremendously interested, and even the architects of the great lion house at Lincoln Park favor the new type for the great zoölogical gardens about to be developed in its Forest Preserve.

It is enlightening to discuss these projects back and forth with different experts. Sharp lines are drawn between casual collections which are primarily for display and representative selections which have larger scientific purpose. It is apparent that the cost of construction of these naturalistic developments if directed along the lines of building construction and accumulation of animals for exhibit would make a tremendous showing of animals, which is, after all, what the public want to see. The questions of sanitation, of protection from rodents, of breeding and withdrawing from display, of increased healthfulness, of weathering, of construction cannot be settled at the present time. Where the cost is so great and the net value not definitely established, it is not wise wholly to disregard the opinions of men who have built up great successful establishments with well rounded groups of healthy animals. On the other hand, the open dens are so attractive that even at the high cost a limited number would seem justifiable. It is quite possible that one or two such dens would prove as much of a novelty and drawing card as a group, and the money saved could be diverted into real animals instead of artificial rock.

HEALTH OF ANIMALS

The first concern of a zoölogical institution is the health of its animals. It may have cost thousands of dollars and years of effort to secure a certain specimen. Therefore the designer who has been considering how to please the public must now study the even more important elements that affect the health of the exhibits. Animals are subject to dis-



THE GREAT LION HOUSE IN LINCOLN PARK, CHICAGO.
Perkins, Fellows and Hamilton, Architects.
And yet it was a Chicago man who wrote, "Architects and landscape specialists have as yet done nothing upon which an article can be based."

ease just as humans are and in the unnatural state of their captivity easily get out of sorts. The most positive and definite recommendation that can be obtained is Carl Hagenbeck's statement that fresh air is the all-important factor in keeping wild animals in good condition. In winter as well as summer he gave his animals access to the open air direct from their inside dens. The extent and application of this general principle is a matter to investigate in each instance, because a Zoo cannot afford to learn by experiment the exceptions to this rule.



THE LLAMA HOUSE, NEW YORK ZOÖLOGICAL GARDENS.

Heins and La Farge, Architects.

The oddities in detail are so much in evidence and in such contrast of color as to compete in interest with the animals on display.

Exercise is another positive essential to good health and finds expression in cages large enough for even the restless ones that pace up and down, and in ample outdoor dens, the need for exercise should be met by smooth surfaces for running about; rocks or tree trunks to climb; or ample ranges, according to the nature of the beast.

Good food is another factor. The designer must ascertain what the requirements will be and the facilities which he must supply. In the larger groups, these may include farm buildings; butcher shops, hay barns, ice houses, kitchens and dairies. A central distribution point and service group with food storage and preparation rooms in each building will be required. The operation of feeding should be rehearsed and detailed by the supervisory authorities and facilities provided for carrying out the instructions. If food pans are to be washed, there should be a suitable sink and assurance of boiling water; if individual pans are to be used to prevent spread of disease, places should be provided for them; if mashes are to be mixed or vegetables chopped up, facilities should be at hand.

Cleanliness is all-important. There must be ample facilities for cleaning and washing the cages at all times. Floors should be sloped to drain, but not too much for appearances. It seems almost needless to mention such obvious details, yet one house was observed with horizontal joints in wooden partitions and joints in the floors opposed to the slope, all conducive to rapid deterioriation and rot. The gutters into which the floors drain need not be conspicuous and obnoxious. A higher front and a deeper bottom, and a tile lining of the type used in swimming pools is a considerably better arrangement than the unsightly sheet metal gutters in ordinary use. For hoofed animals a floor of a cork brick used in dairies is highly commended as being non-absorbent and not slippery. Cross lined cement floors are difficult to clean since it is necessary to sweep them in two directions. Floors need special drain grilles if stoppage of pipes is to be prevented. In one elephant house, the slope of the main sewer was inadequate to prevent caking and stoppage of the pipes, so that it has been necessary to introduce "Y's" and cleanouts. Water for drinking must not become stale or polluted, and again it seems unnecessary to point out such errors as the admission of sewer gas into a drinking tank.

Water should be provided for bathing or hosing as necessary. Mains must be adequate for the demands upon them. A's hippopotamus tank is criticised as too small for the comfort of the animal, but A maintains that he changes the water in his tank two or three times a day, whereas B's tank takes so long to fill and so long to empty that it is always filthy.

Cleanliness is not possible in a cage

where vermin can find forage. Tightly leaded joints, sanitary bases, absence of moulding and the like are all very well as far as the cage proper goes but it is rather a shock to get back of the scenes and examine the conditions one finds under cages. The space under the built-up platform should not be left as a catch-all for the accumulation of endless trash and the harboring of rodents.

Cleaning cages thoroughly is not possible from the outside. It is therefore necessary to shift the animals temporarily and every cage or stall should be designed with this requirement in mind. Where the design calls for inside and outside cages, this transfer can be readily made in summer time, at least. A den within a cage likewise enables the keeper to lock up an animal while his cage is being cleaned. In winter, however, it is often desirable to shift the animals from cage to cage inside by means of connecting doors. Sliding doors are preferred over doors swinging on hinges in all walls and partitions. The passage back of the cages in the New York lion house is faulty in that the keeper who is adjusting the doors to move the animals from outside to inside or vice versa cannot see what he is doing and even though signalled from the front may close the door upon the animal's body or tail.

The removal of refuse from the stalls is conveniently handled by manure boxes which open from the stalls and from the outside. A sill or track on the side toward the stall is a nuisance, and corner pockets on the outside jam an accumulation and make removal difficult. The introduction of a service road around a stall building, of necessity cutting across the ends of all the connected paddocks and involving the use of many gates, suggests the related design of gate and yard widths so that the opening of the gate for the road closes the end of the yard.

In spite of all these precautionary measures there is enough work for that most important appendage, the hospital. It will be equipped with antiseptic baths, overhead cage conveyors, operating space and the like. Likewise there should be some building for the reception, quarantine, or winter storage of animals.



INTERIOR OF ELEPHANT HOUSE, NEW YORK ZOÖLOGICAL GARDENS.

The vaulted ceiling of the unit stall is as good in scale as the miniature elephant heads on the columns are out of scale.

The heating of a large group of zoölogical buildings is an expensive item and more important than the heating of park greenhouses, since wild animals are more difficult to find than wild flowers. The requirements are somewhat varied in that different temperatures must be maintained. Considering the cost of installation and operation, as well as the nuisance and disorder resulting from individual heating plants, it is surprising not to find the central heating plant in general use. For special heating of certain buildings small plants could be supplied to succeed the main plant when it is shut down for the season.

SPECIAL PROBLEMS

An architect would not undertake to design a residence for a human client without learning by interview and observation the client's manner of living, his peculiarities and requirements. The problem is similar with the animal client, less complicated in some respects, but more difficult in others since the animal client cannot be interviewed for an expression of his preferences. However, a satisfactory substitute may be found in the person of the keeper who has intimate knowledge of his charges. From casual remarks and reminiscences all sorts of details can be acquired and the more general the investigation the more valuable the consensus of opinion will be.

It is the elephant that causes the archi-

tect the most trouble. This is not due to his bulk alone but to the intelligent use that he makes of it. He invents stresses and strains and moments of inertia that bring ultimate tensile strengths into every-day practice. The walls that enclose him, if of brick, must be covered with sheet steel to resist the action of tusks,—if these have not been removed. The bars that separate him from peanuts and people must be of sturdiest construction with special attention to end anchorage and intermediate bracing. Railroad steel will bend under his onslaught. The doors through which he wants to pass must be fortified against attack from either side. Sharp spikes, point outward, which have been bent or snapped off, bear witness to the toughness of his head. Everything within reach of his inquisitive trunk must be securely fastened in place. Drain tops should be screwed down. Water supply and waste valves should be key-operated. A wheel valve or a door latch is "open sesame" to an elephant. It is amazing what he will find to do. One crafty animal amused himself by opening the refuse box and scattering the refuse all over his yard after the keeper had swept up; another seized a rope by which clerestory ventilators were operated and nearly dislocated the superstructure. Leg control must be provided for with heavy rings for chain anchorage placed diagonally so that the animal may reach his food and water without being able to wheel and attack his keeper. Some elephants are absolutely docile and need no such precautions, but a designer must figure on the possible exertion of strength and cunning, even coupled with vicious tendencies.



INTERIOR OF RHINOCEROS HOUSE, NEW YORK ZOÖLOGICAL GARDENS.

Although the rhinoceros lacks the elephant's tendency toward mischief, he needs the same substantial framework for his enclosure.

The rhinoceros is similar in bulk to the elephant but lacking in the tendency toward mischief. He needs the same substantial framework for his enclosure and the same plate-covered walls. It is to be noted, however, that all steel work must be protected with acid-resisting enameled paint. Again, the rhinoceros might break off his precious horn if horizontal rails were made a part of his stall grille.

One learns that giraffes are afraid of a certain steep runway from their stall to the corral. These giraffes probably cost five thousand dollars and the institution would prefer to get a new architect rather than to replace one of these animals. The technical adviser who makes a tour of investigation is going to gather a great deal more valuable information for an institution than will the visiting committees who are not trained to observe and analyze.

"PLAN AND ARCHITECTURE"

It is a more or less popular fallacy that the architect is interested only in the appearance of things. This finds expression in announcements that the plans were designed by the administrative authorities and the "architectural work" by so and so. Of course, there is a divided responsibility for either success or failure in every case. The reason for the prevalence of the current theory is that the architect or his landscape confrere is the one who has the most real concern for the external appearances, and the technical ability to express his ideas. On this basis questions pertaining to style and detail are of more interest to him than to either the public or to the institution, who generally take such matters for granted, be they good or bad.

Two extremes of expression are encountered in the design of zoölogical buildings—without considering the architectural abnegation of the naturalistic display. In one, we find the modern

structural simplicity with exposed steel trusses and super-sanitary walls; in the other a studied effort to obtain exotic atmosphere. A type of building of the same origin as the animals it will house finds ample precedent in continental gardens, but one must not lose sight of the fact that these foreign zoölogical gardens originated largely as amusement parks, which character many still maintain. There, the extremes of exotic styles had justification in their appeal to the popular fancy and ranked with the concert, café and trained animal features. In limited space, fantastic style developments stand out in sharp and unpleasing contrast to each other and are counter-attractions rather than settings for the animals. With plenty of intervening space, structures of different geographical types may be used providing that they be treated in simple fashion.



THE GIRAFFE HOUSE, ANTWERP ZOÖLOGICAL GARDENS. An unpretentious example of "atmospheric" architecture and of shortcomings in fencing.

As an example of extremes in style, the Berlin Zoölogical Gardens may be mentioned, although for its exhibits it has always ranked high among the continental collections. There is one sensation after another, in Hindoo, Japanese and Egyptian temples, Swiss chalets, Chinese pagodas, and the like. The contrasts of style are too much for absorption and assimilation. It is a museum of architecture overpowering a mere collection of animals and belonging in an amusement park to which admission is charged.

In the Denver Zoo is a monkey structure representing a cliff dwelling of the Southwest. This is occupied by monkeys hailing from India!

The ostrich house in the Berlin gargarden is a young Egyptian temple, painted inside and out with life size hieroglyphics. It contains a collection of ostriches and cassowaries. As far as the latter bird is concerned, there is no architectural association, since he comes from Australia, or Timbuctoo, as we once learned. Even an ostrich would never have been allowed in such a temple in his home land. If domesticated, he would have only a simple service building. In pleasing contrast is the Antwerp house illustrated, an exotic type but of marked simplicity.

A similar contrast is found between camel houses in two American Zoos. In one case, it is an Asiatic pavilion of utmost elaboration, attracting as much attention as the animals; in the other it is a nondescript affair of plaster, stone and irregular roof line forming such a fitting combination that one almost expects to see a camel driver appear.

Log buildings or "block-houses" for elk or northern animals may be used to good advantage, but they should be designed as stables or shelters and not as quaint cabins or picturesque rustic garden houses. The one looks sturdy and appropriate, the other frail and subject to abuse. Panels with applied cedar sections in geometrical patterns, intricate interweaving of odd branches and all such craft work is out of place in animal housing.

Variation in style is of incidental interest in the secondary buildings, but the greater the number of units, the less need for accentuation of each. Where large collections are housed or group treatments are required, a certain uniformity must prevail. Here individuality may be accomplished, as in the New York group, by the extensive use of sculpture relating to the exhibit, not as in another instance, with an elephant's head on a lion house!

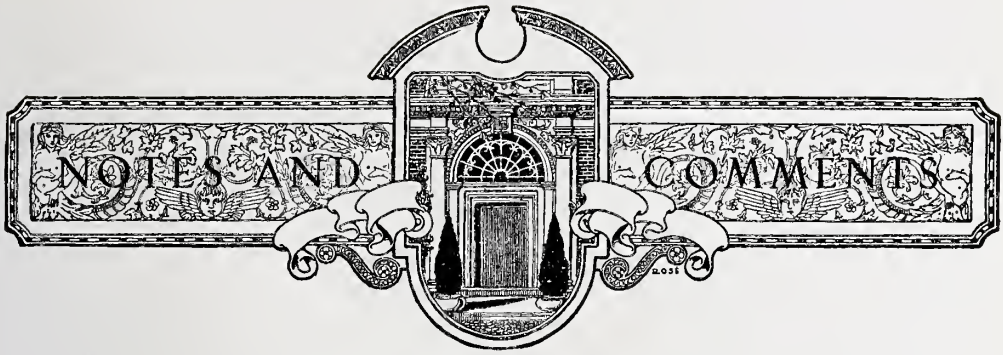
Large group treatments are in themselves open to debate in that by reasons of orientation it is necessary to balance

open cages on one side with solid walls on the other; or perhaps to sacrifice the best interests of the animals by not giving them the best exposures and sunlight. It is possible that at least one large group of animal clients is not getting a square deal, since in two major collections the main axes of the buildings are directly opposed in orientation.

Small groups make interesting punctuation points in a large scheme, but again we have a notable instance where, in a large park area, three buildings are grouped so close together that the distance between them is less than the minor axis of the smaller ones. There is enough feeling of congestion due to the necessary bars and fencing without increasing it by needless crowding of buildings.

In the treatment of interiors the Chicago lion house, so frequently commented upon for its good points, receives unfavorable criticism on account of its white tile, suggestive of sanitation usually observed in a dairy restaurant. Subdued greens and browns are much more restful to the eye and quite as sanitary. Cages are occasionally treated with painted backgrounds, but unless these are exceptionally well done and not allowed to become time worn, simple walls are more satisfactory. Well-lettered inscriptions have been used to excellent advantage on large wall surfaces on some buildings in the Jardin des Plantes in Paris. In the Antwerp gardens, maps locating the original habitat of the animals further intelligent appreciation of the exhibits. In the design of exterior cages, the architect finds that a repetition of interior scheme gives a decidedly cramped effect. This can be overcome by projecting bays and long end wings, as in the London Zoo, with short intermediate sections. In the Jardin des Plantes a colonnade with bar-filled spaces gives a building effect not as agreeable as all-metal cages for outdoor use.

The designer of zoölogical buildings should familiarize himself with the different buildings of each class that have been erected in this country and abroad and check them point by point. From nearly every example he will get certain features which are commendable and fine and others which are objectionable. He will produce better buildings if nothing is taken for granted; if a policy or detail is not adopted until examined from every angle and not rejected without equally thorough investigation of the merits of its proposed substitute.



A City Plan for One's Home Town

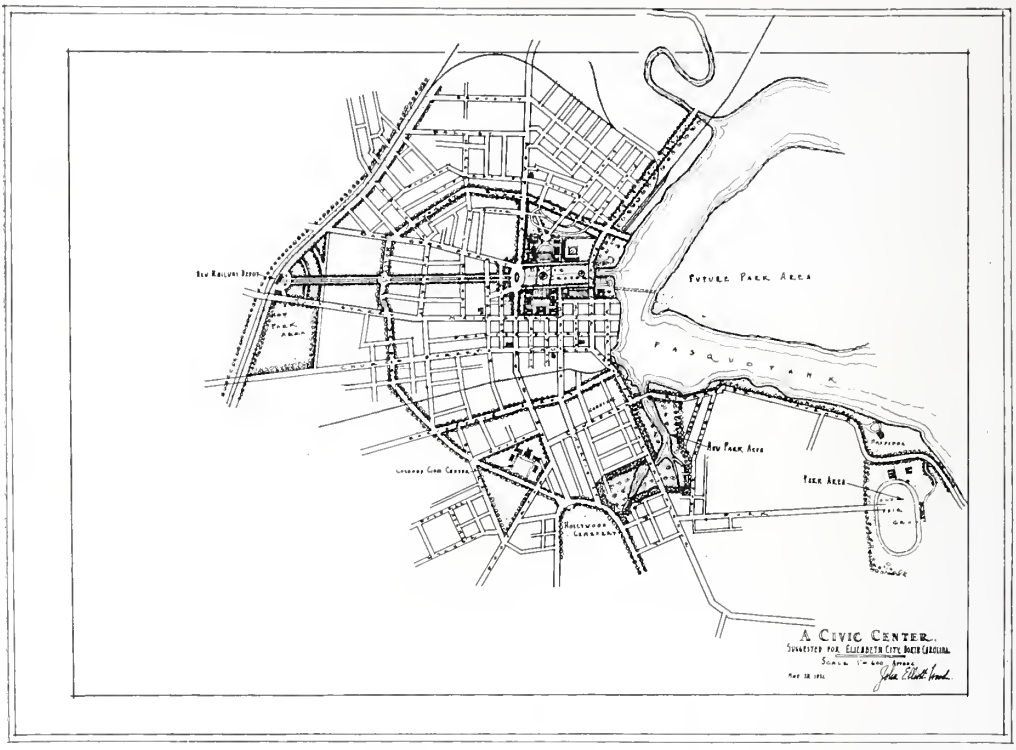
A mid-western city hesitated recently in locating a proposed group of public buildings that savored of a civic center, in fear that it might predispose a city plan. A visiting architect, of high repute, allayed the anxiety of this city by recommending, after a brief inspection tour, a *sine qua non* site for the buildings. "City planning," he observed complacently, "is nothing but common sense."

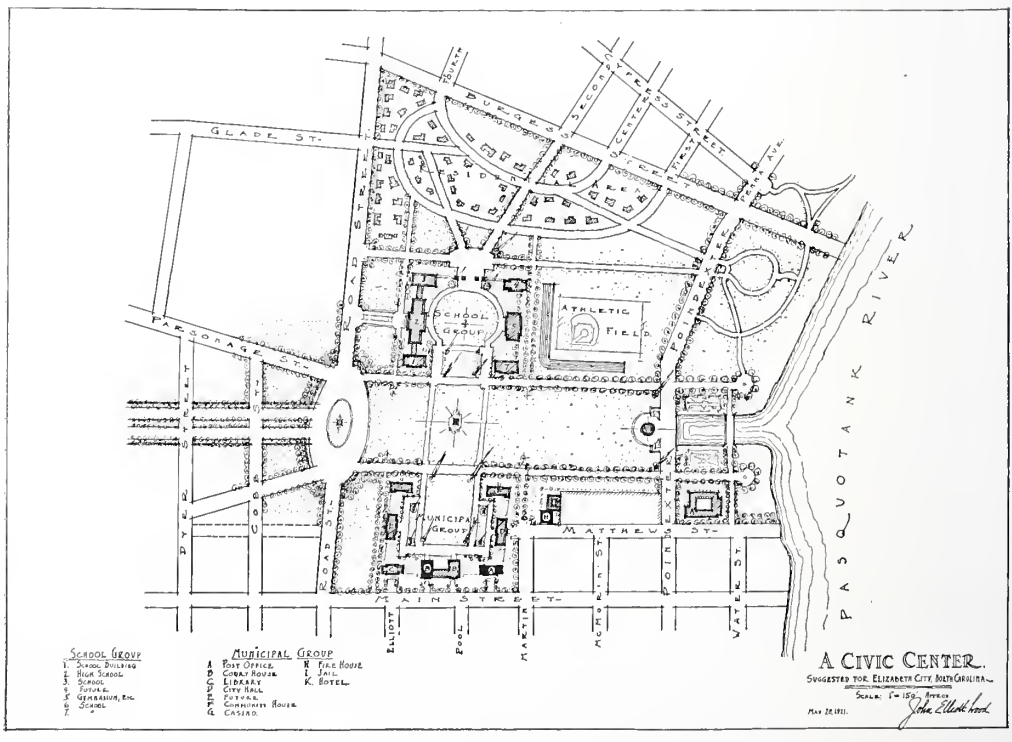
What an adroit perversion of the mentorism of Royal Cortissoz, that in matters of art "the layman only needs to use a little common sense in order to realize when he is being rationally instructed and when he is having his leg pulled." Common sense in art appreciation, in architecture, in city planning is as essential as it is in politics or business, but to assert that it may be substituted for the exact knowledge which accrues from research and experience in any of these fields, is nonsense. The architect should rather have said that his architectural training fitted him to advise on the particular phase of city planning most closely allied with his profession—such advice being but tentative and preliminary. A very little common sense should have made clear to the city authorities, if not to the architect, that a civic center can exist only in relation to a city plan as a whole, and that in the case of their city there were problems involved of traffic arteries, property restrictions, railroad terminals and parkway connections that could properly take months for a city plan commission to determine with any degree of certitude.

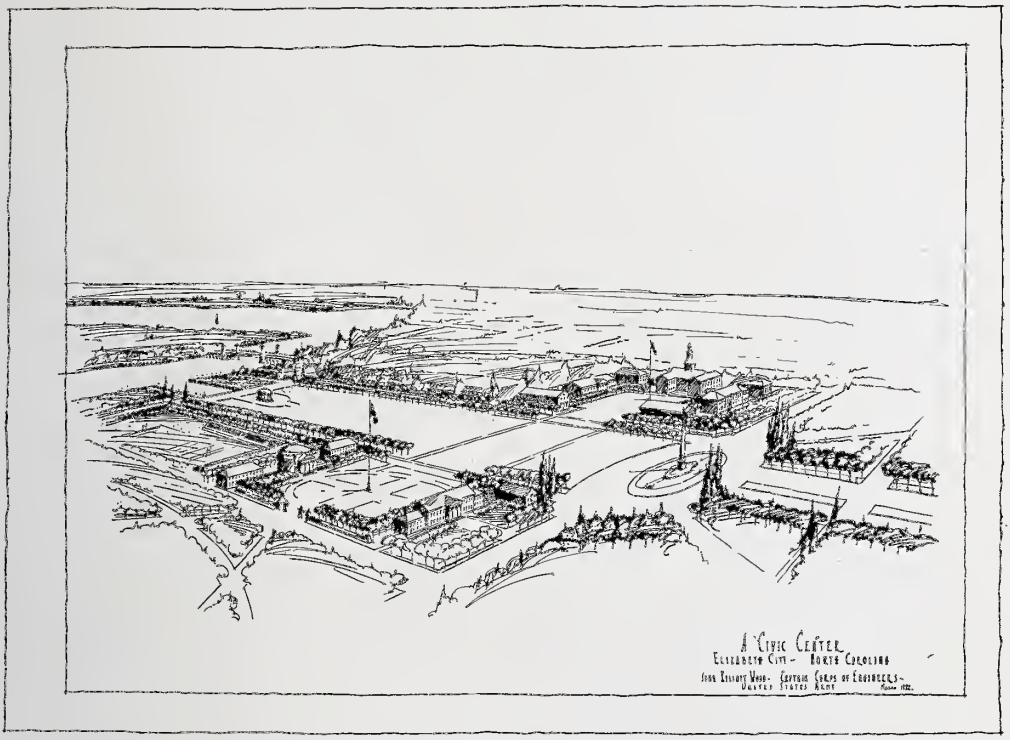
Architects are sensible of the professional possibilities of city planning and many are acute to try on the mantle of city planner. Those already associated with city planning projects, engaged in the locating of public and semi-public buildings, bridges, memorials and civic improvements generally, enjoy the obvious advantage of securing commissions for such features while the general plan is taking shape. The keen architect keeps informed of city planning projects at large and especially those under way within his professional purlieu. Every architect, in actual fact, is participating in the habilitation of cities wherein are being erected buildings of his design, and he participates in city planning in so far as his architectural conceptions conform with city planning ideals. Whether actuated by desire to contribute his measure to this movement in the intelligent ordering of civic growth or—let the truth be said—whether swayed merely by the motive of personal gain, more and more architects are exhibiting a willingness to accept a call into the city planning field.

There is nothing mysterious or hierophantic about city planning; neither is it purely common sense revelation, as the architectural adviser of the mid-western city would have it appear. "Who are a little wise the best fools be," is a true old saw, and fortunate it is that all architects are not privileged to rush into city planning, who feel the urge upon them. Unlike the ministry, preparation must precede rather than follow inspiration. For those who would seek enlightenment in the general requisites of city planning, one opportunity presents itself which may be availed of without jeopardy to architectural reputation or hardship to any community. One community, in fact, has profited largely by this occasion—the City of Elizabeth, North Carolina.

Captain John Wood, Corps of Engineers, U. S. A., a graduate of the University of Virginia and with an architectural degree from the Massachusetts Institute of Technology, assigned to duty since the war in a city actively engaged in large planning and buildings operations, felt a stimulus and longing to design a city *suâ manu*. What more logical place than his home town? Bred to the community ideals of a Southern gentleman, and like Jefferson enjoying an architectural avocation, he expanded to the idea of endowing the southern city of his birth with a city plan of his preparing. He


Future Park Area
Pasquotank
New Park Area
Park Area
A Civic Center.
Suggested for Elizabeth City, North Carolina.
Scale, 1" = 400 Feet.
May 28 1931.
John Ellicott Coxe.


Glade St.
Burgess
Second
Central
Street
Forest
Avenue
Parsonage St.
Dyer
Court
Road
Athletic Field
School Group
Municipal Group
Pasquotank River
Matthews St.
Main Street
Elliott
Pool
Martin
Academy
Water St.
School Group
1. School Building
2. High School
3. School
4. Future
5. Gymnasium, Etc.
6. School
7. "
Municipal Group
A Post Office
B Court House
C Library
D City Hall
E Postal
F Community House
G Casino
H Fire House
I Jail
K. Hotel
A Civic Center.
Suggested for Elizabeth City, North Carolina.
Scale, 1"=150 Feet.
May 28 1931.
John Ellicott Coxe.



secured such a map of Elizabeth City as was available—imperfect and obsolete in street plan as was to be expected—and proceeded by visits home and other means to bring the existing record up to some degree of accuracy. He then compiled a list of civic and institutional buildings of both public and private character which very probably would be needed by this city within the next quarter of a century; he outlined a major and minor street plan; he studied housing conditions; he gave consideration to parks and playgrounds and other necessary adjuncts to a well organized town, and finally evolved a plan which Elizabeth City could follow in its logical growth and to which it could turn for guidance as occasion should arise.

This architect found his task no easy one. Idealistic features of his choicest selection from European capitals proved to be impracticable in a small American city; irrevocable existing conditions dictated street lines other than he would have had them; public and private buildings which he would have wiped away with a Hausmann hand were discovered to be immeasurably dear to the heart of Elizabeth City. Yet he neither sulked nor balked, and eventually produced a plan of comparative excellence. In this plan he made all possible use of existing public buildings and land; he devised a modified zoning regulation that would eventually eliminate, without necessity of public purchase, all privately owned structures detrimental to the scheme proposed. He enlisted the interest of leading citizens of the town, he marshalled the newspapers to a city planning campaign, he contributed plans and bird's-eye views without stint; in short, he gave of himself as freely and unreservedly as though he were in active practice and his home town were a most valued and remunerative client.

He has learned much psychology in his first city planning experience. A prophet in his own country, his recommendations, so rational as to appear self-obvious when once presented, have been belittled in every sense. He has been accused of insincerity, of upsetting property values, of being an idle dreamer. But, on the other hand, let it be broadcasted that the child of his brain and vision is being fostered by the town fathers; for a plot of land which was on the point of being purchased for a new high school building at the time the city plan was submitted has unanimously been abandoned and a site acquired in accordance with the proposed civic center. To be sure, an architect has been engaged for the design of

this $250,000 building—the first in a proposed expenditure of $385,000 for schools,—with no thought to the part the new building will take in the city plan as a whole and in that sense without regard to the care with which such architect should be selected. But it is almost too much to hope that a city so recently awakened would realize immediately the opportunity at its door in the gratuitous services of a professional adviser; a philanthropic city planner, moreover, may not seek recognition or encomium, except in so far as appreciation of his work is essential to its ultimate success. The case is noteworthy as a demonstration to other towns of the quick fruits of city planning and as an instance to other architects of city planning by mission rather than commission.

Such a labor of love in his home community will not be without benefit to any architect. The best work of artists upon which their reputation is founded is that done *con amore*, which frequently signifies *per amore*. That an architect's ardor for city planning may be cooled by an experience as recounted above does not mean necessarily that love's labor will be lost, for he will be the cool headed architect sought for consultation by city planning commissions. If such architect is called to serve on civic improvement committees he will be a more valuable man by reason of his home town experience, not as a full fledged city planner, but as one aware of the full meaning and comprehensiveness of this new city activity.

That a plethora of incompetent plans will follow an era of philanthropic city planning by architects, bringing odium to architectural city planners of proven ability, and elimination of "jobs" that would otherwise fall to professional city planners, is contrary to historic record. "Great men must be employed to complete great changes in empire, but little men may begin them." There will be added demand for those who have attained excellence and reputation in city planning by the impetus which the "little men" will start. And all personal thought aside, is it not a worthy mission to aid some city to enter the march of city planning progress that must otherwise be left far in the rear?

GEORGE BURNAP.

A Combination Ranger Station and Community House

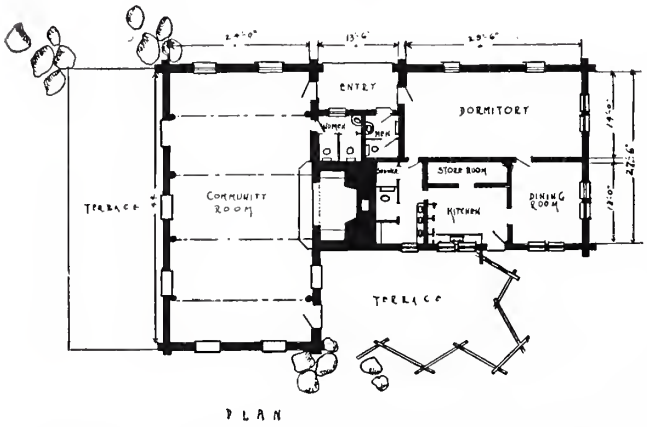
An experiment in national park buildings, the combination community house-ranger station, may soon be adopted by the Landscape Engineering Division for all national parks.

Already two such structures are under way in Yellowstone. One section will be turned over to rangers for general headquarters, the other devoted to those who "pack in" by automobile. The first of these buildings will be located at the Canyon of the Yellowstone, and a second soon is to be started at Old Faithful.

Considerable advantage is seen in placing the community house in combination with a ranger station. Without inconvenience, the motorist can secure from the ranger force information regarding roads, park rules and directions. A huge community room, equipped with fireplace, reading and writing tables and dance floor, insures to the motor traveler not only a gathering place for entertainment, but a shelter from storms and chill weather. It is a very real convenience for the thousands who prefer this method of travel to the customary train tours.

But the program of building and locating park structures where they will best fit into the outdoor picture will not end with the new ranger-community stations. It is a dream for the future that all new construction work will be similarly patterned. This will apply not only to government buildings, but to camps and hotel structures as well.

A new look-out and shelter station at the top of Mount



PLAN

COMMUNITY ROOM AND RANGERS' QUARTERS, YELLOWSTONE NATIONAL PARK.
Prepared by Landscape Engineering Division.

Washburn, more than 10,000 feet above sea level, is being moulded along this plan. Perched at a precarious height, the effect of solidity has been carried out through the use of boulder-like rough stones hewn from the mountain. In thus presenting an appearance suggesting the turret of some feudal robber baron it departs sharply from the conventional log or wood structure, which, however safe, generally suggests insecurity when perched upon a storm or windblown point.

An interesting sidelight in connection with this building lies in the fact that only snow water was used in the mixing of cement. Located far from any water source, artificial melting of snow was resorted to by the workers. Summer suns brought about an eleventh hour rush in operations, for there was fear at one time that the snow would melt before a sufficient quantity of water had been secured.

GENE COHN.

Planning the Small-Town House.

Shortly after the close of the war, I was doing some work near a large Government-built housing project. Very well-designed were these little white story-and-a-half cottages; surely they were just what any workman's family would want! But—why was the Government having such trouble in selling these? The prices were low; a huge new steel plant, employing thousands of well-paid workmen, was only a few minutes away; what was the matter?

I could not answer the question, then; but later I stumbled on the answer. Here it is: the woman who does her own work doesn't want a story-and-a-half cottage—nor a two-story house, for that matter—she wants a bungalow.

The proof? Well, I was asked by The People's Popular Monthly, of Des Moines, Iowa, to conduct a "Small-town House Contest." This magazine has a general circulation of about 350,000. Sketch-plans, crudely drawn, but carefully thought out, came pouring in from small-town women all over the country; the wives of laborers, mechanics, business men, salaried men, and so on. 74% of these plans showed pure bungalows, with no finished upper story; semi-bungalows (story-and-a-half) came next, with 18½%; straight two-story houses were only 7½%.

This showing surprised me very greatly; and it also set me thinking. How much of the labor turnover in the large industrial plants is due, I wonder, to the dissatisfaction of the workmen's wives, because the housing isn't what they want? I believe these percentages are well worth the study of every architect who plans small houses; whether for philanthropist, industrial plant, development corporation, or individual client.

Let's analyze this contest a little further. 38% of the plans showed 5-room bungalows; 25%, 4-room; 9%, 6-room. 47% of the contestants preferred frame siding; 20%, stucco; 8½%, brick; 2½%, cement block; while 22% did not give any preference as to building material. All but 2% of the plans showed a bathroom. 5½% had a sleeping-porch, while 5% wanted a breakfast alcove.

The typical floor-plan of the 5-room bungalows was much like figure 1; the first-prize plan, in this contest. There is nothing specially novel about this; just a carefully studied little layout. But there are several points worth noting; points that were brought out, over and over again, in the other plans and letters that I received:

1. The built-in sideboard, with doors to kitchen in the back; so that dishes, meals, etc., can be passed through, or put in from either side.

2. The absence of a pantry; the food is kept in the large kitchen-cupboards, or dropped down to the cellar in the screened dumb-waiter "D," which serves as a food-safe. There are lockers and flour-bins beneath the work-table and the drain-board of the sink. The built-in kitchen equipment is nearly always detailed or described with very great minuteness.

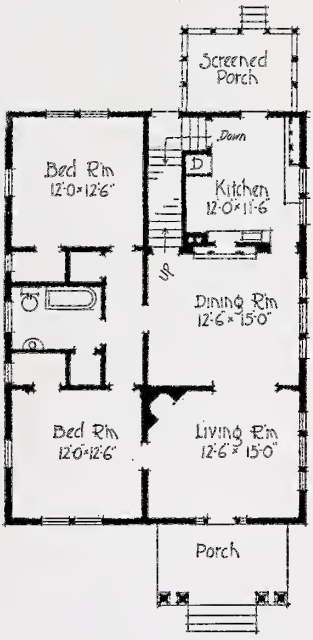


Figure 1

3. The grade entrance on the cellar stairs;

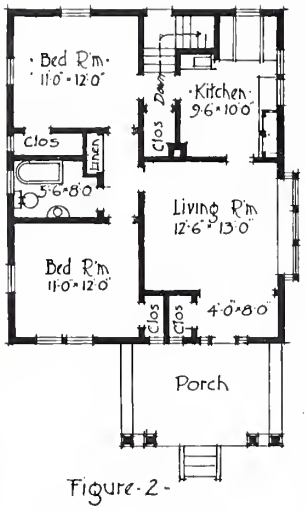


Figure 2.

doing away with the heavy cellar doors, so clumsy for women to lift.

4. The screened back porch; holding a refrigerator, and serving as a breakfast-porch on occasion. But many of the plans had no porch here.

5. The small passage, giving privacy to the bedrooms and the bath.

6. The absence of any reception hall or vestibule.

7. The large dining room, which often serves as family sitting-room; leaving the living room to fill the place of the old "parlor" to some extent.

8. The ample closets.

Many of the plans omit the little passage; the bedroom closets are switched into this space, and the bath is entered from both bedrooms. These bedrooms, of course, communicate with the living room and dining room directly; sometimes with the kitchen. A door by which the housewife can get to the kitchen from her bedroom is very much in demand; many reasons are given for this.

Now let us look at figure 2; a second-prize plan for a four-room bungalow. There are all sorts of variants on this typical plan; but the main idea runs through them all. In some cases the living room is quite large, to permit a dining table at one end; sometimes there is a little breakfast porch; sometimes the breakfast alcove, as shown, recessed from the kitchen, and fitted with built-in benches and table. One clever plan had the alcove between living room and kitchen, with glass doors to shut it off, at need.

If we carefully study these plans, we will see that the authors had one foremost idea in mind: to save steps and labor for the housewife. I wonder how many of us put that idea first, when we plan a small house? Yet when we plan a factory, we put the efficiency-idea first of all. The housewife looks on her home as her workshop; why cannot we get her viewpoint?

WILLIAM DRAPER BRINCKLOE.

Le Brun Traveling Scholarship Competition

The Le Brun Traveling Scholarship for 1922 has been awarded to Mr. Lionel H. Pries of Philadelphia, from a field of thirty-three competitors from all parts of the United States.

The quality of the designs submitted was unusually high and the solutions varied. The winner receives $1,400 to enable him to travel abroad for the purpose of study. In addition to the prize, the Jury gave mention placed first to Mr. George K. Trautwein of Philadelphia; mention placed second to Mr. John O. Vegezzi of New York City and mention placed third to Mr. Paul Hyde Harbach of Buffalo. Mentions not placed were awarded as follows: Mr. George N. Pauly, Mr. Roy F. Larson, Mr. Gerald K. Geerlings, Mr. Louis Fentor, Mr. Roy Walling Cheesman and Mr. Frederick Ross Lorenz.

This prize was founded by Mr. Michel Le Brun in 1910, and was originally awarded every other year, but recently Mr. Pierre Le Brun has increased the endowment so as to enable the New York Chapter, American Institute of Architects, trustees of the fund, to award it annually. The Jury of Award was composed of Mr. Pierre N. Le Brun, ex-officio, Mr. Milton B. Medary, Mr. Henry Bacon, Mr. Louis Ayres, Mr. Laurence F. Peck, Mr. Francis Nelson and Mr. Julian Clarence Levi, Chairman.

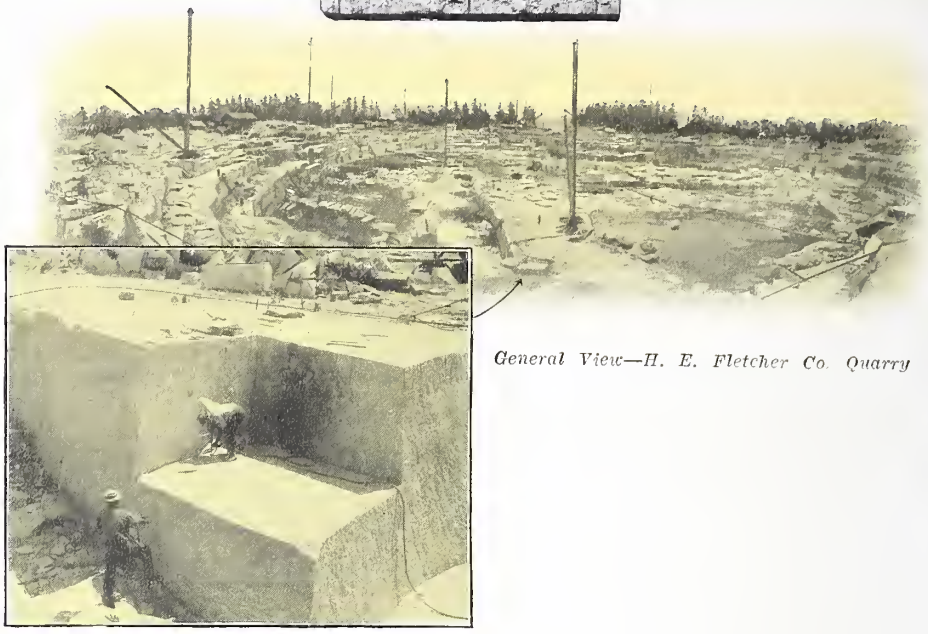
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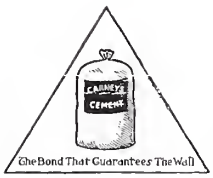
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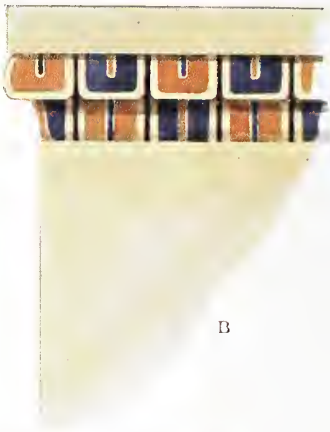


CARNEY'S CEMENT

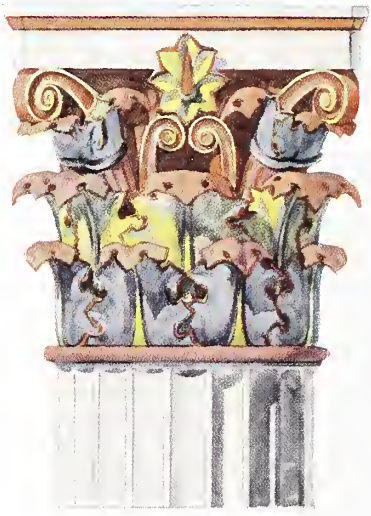
For Brick and Tile Mortar



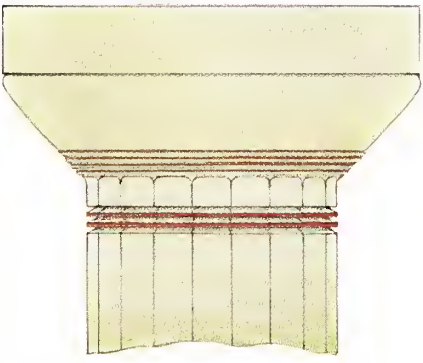
C



B



D



A

A. Doric cap Aegina "Nieu Tample" Fürtwangler's restoration.
B. Typical Doric treatment of pilasters or piers.
C. Capital of the Erectheum, gold, red and blue.
D. Coriuthian cap in terra cotta from Olympia.



1. POLYCHROME GARGOYLE, OLYMPIA.

ARCHITECTVRAL POLYCHROMY

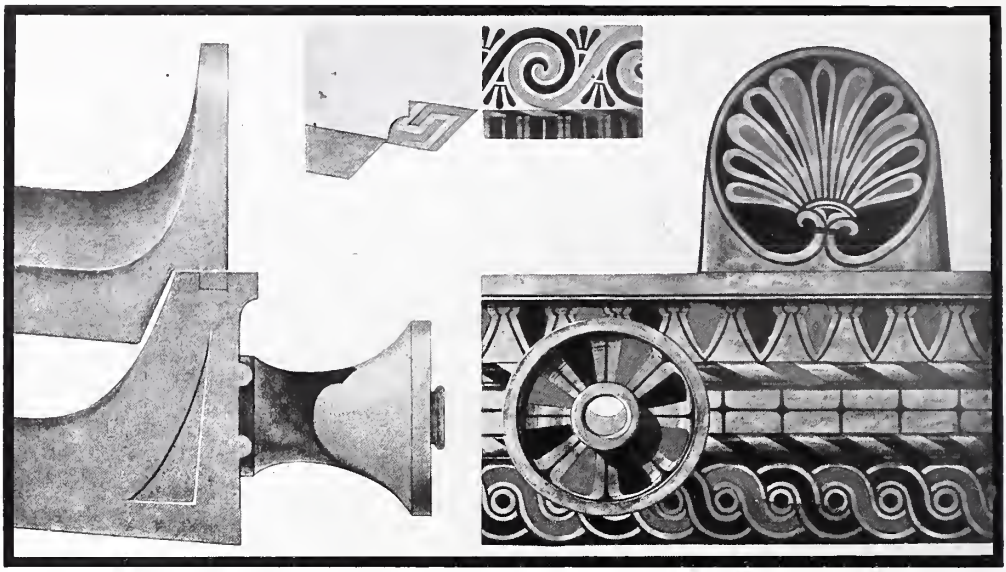
BY LEON V SOLON

PART V

The Color Treatment of the Capital, Cornice and Other Architectural Items

THE coloring of the various types of Greek capital is a subject worthy of greater elaboration than our space permits. Typical examples of the three orders have been selected to demonstrate the general principles of color location. In the Doric capital color figures to the minimum extent, despite the fact that it constitutes so prominent a feature in authenticated restorations of edifices designed after that manner. Theoretically, this is to be expected, and is consistent with the observation that the presence of color depreciates the appearance of structural strength; the stalwart character realized in the columns of this order would necessarily have been diminished had polychrome enrichment of a more elaborate character been developed. Archæological research records red to have been the only color used on the echinas; where there is repetition of the channeling in certain examples, at the top of the shaft, a similar color treatment was adopted, as is shown in Diag. A (Plate V.); this constitutes the maximum extent of color decoration in the majority of instances. As the piers (B) have a lesser structural significance, greater color elaboration was permissible; our illustration is a typical example taken from the Temple of Zeus, Olympia; the piers of the Parthenon were treated in much the same manner. (See Collignon.)

Our illustration of the Erectheum capital is rendered after the restoration of Dr. Josef Durm, which shows the Ionic capital in all its magnificence. The colored volutes were treated after two fashions; in certain examples (e. g. Temple of Apollo Epicurus) a full torus forms the outer edge; this developed a wide range of tones in the red decorating it; its sharp shadow projection accentuated the brilliancy of the color. In the Erectheum capital a sharp angled channel replaces the torus, which, from the point of view of color development, is vastly superior. As the volute turns, the



2. POLYCHROME CORNICE TREATMENT.

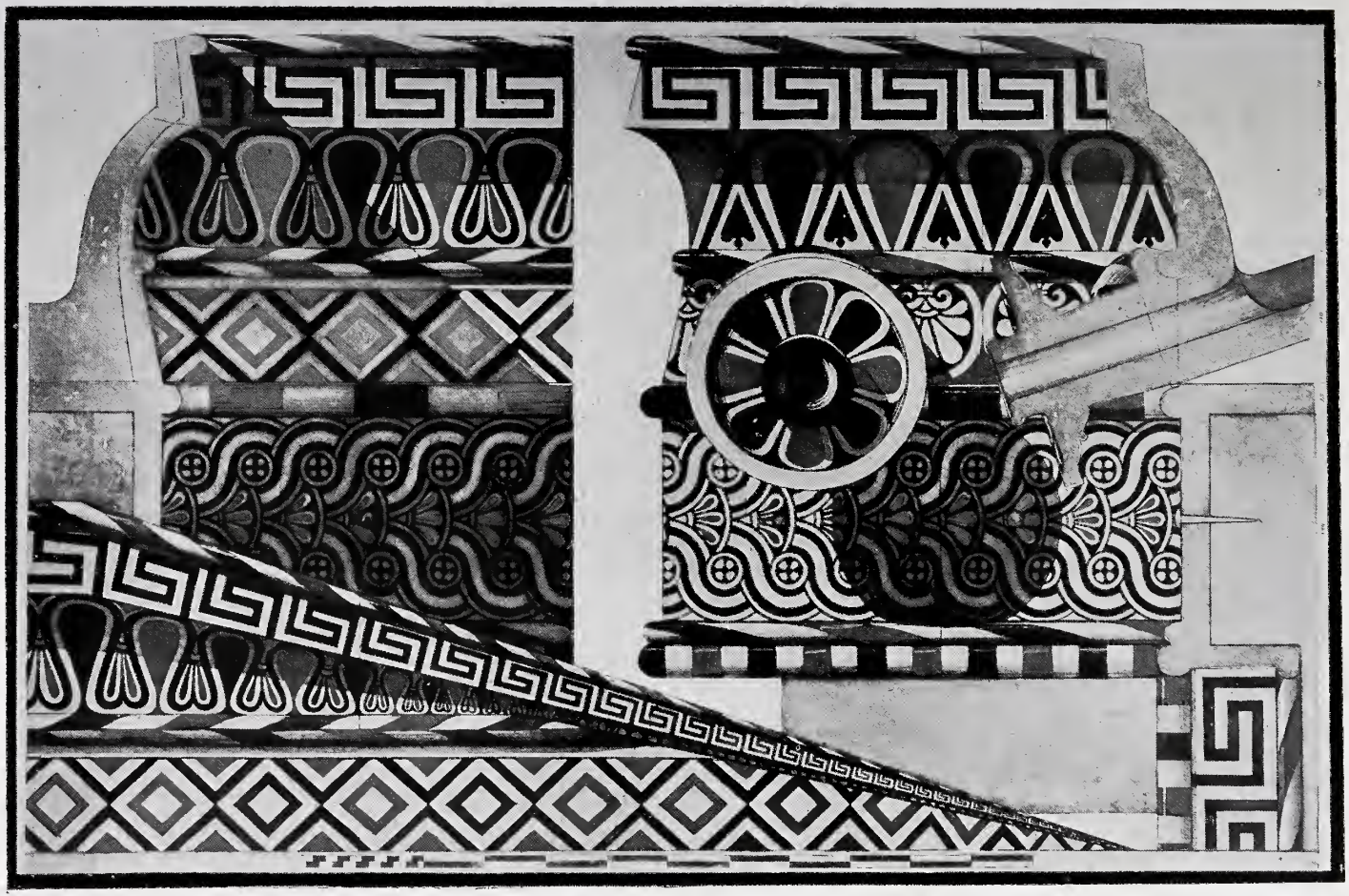
color upon the planes which form the inner and outer faces of this incision, changes in strength, from the deepest tones possible under the circumstances of illumination, to the lightest. The color on the plane inclined from the light at the top of the cap starts in shadow; by the subtlest tone gradation, the deep tone gradually progresses to its maximum purity, as this plane becomes inclined to the light. The two planes forming the channel produce tone contrasts throughout the greater part of the volute, by reason of the difference in their angles to the sun's rays. The eye of the volute is supposed to have been gilt in the majority of cases.

The Corinthian cap in our illustration was exhumed at Olympia in comparatively good preservation. It is difficult to find data upon this subject, and this example is of particular interest, inasmuch as it demonstrates the application of the decorative principles of color alternation, and color separation. The foliated husk of the angle volutes and the lower tier of leaves are painted blue; the centre tier is painted yellow;* the yellow is also carried into the centre of the rosette, and on the stems of the lower leaf tier, realizing, as nearly as the motif permits, the appearance of alternating color. Unity in color effect is achieved by the method of separating bright colors with a fillet of another color, red serving this purpose in its outlining of the detail. This well-balanced distribution of red contributes much to the stabilizing of effect.

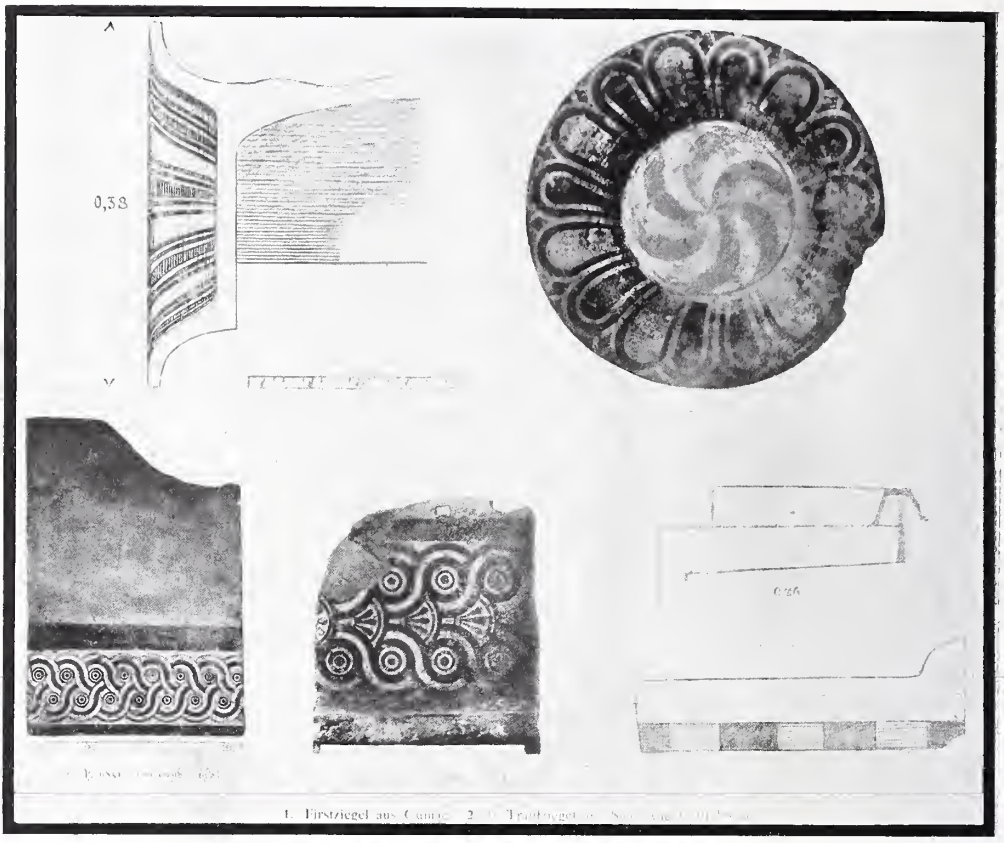
The Coloring of the Roof.

Owing to the great variety in roof designs it would be as difficult to generalize in treatment of this feature as it is upon the coloring of the capitals, were it not for the rigid adherence of the Greeks to fundamental aesthetic principles. Color elaboration and ornamental ingenuity were lavished upon the essentially decorative features. Polychrome and single color designs were developed upon the ridge tiles frequently adorned with antifixae; the cornice antifixae; the akroteria, and the vertical edge of the lowest row of roof tiles; when the latter projected beyond the face of the structure, the under side also was ornamented. The tiles of semicircular or rectangular section which bridged over the joints of the pantiles were occasionally treated with

* This yellow may have been a substitute for gold, as was the case in certain pediment sculptures; it is not improbable that these parts were subsequently gilt.



3. POLYCHROME CORNICE FROM THE TREASURY OF GELA.



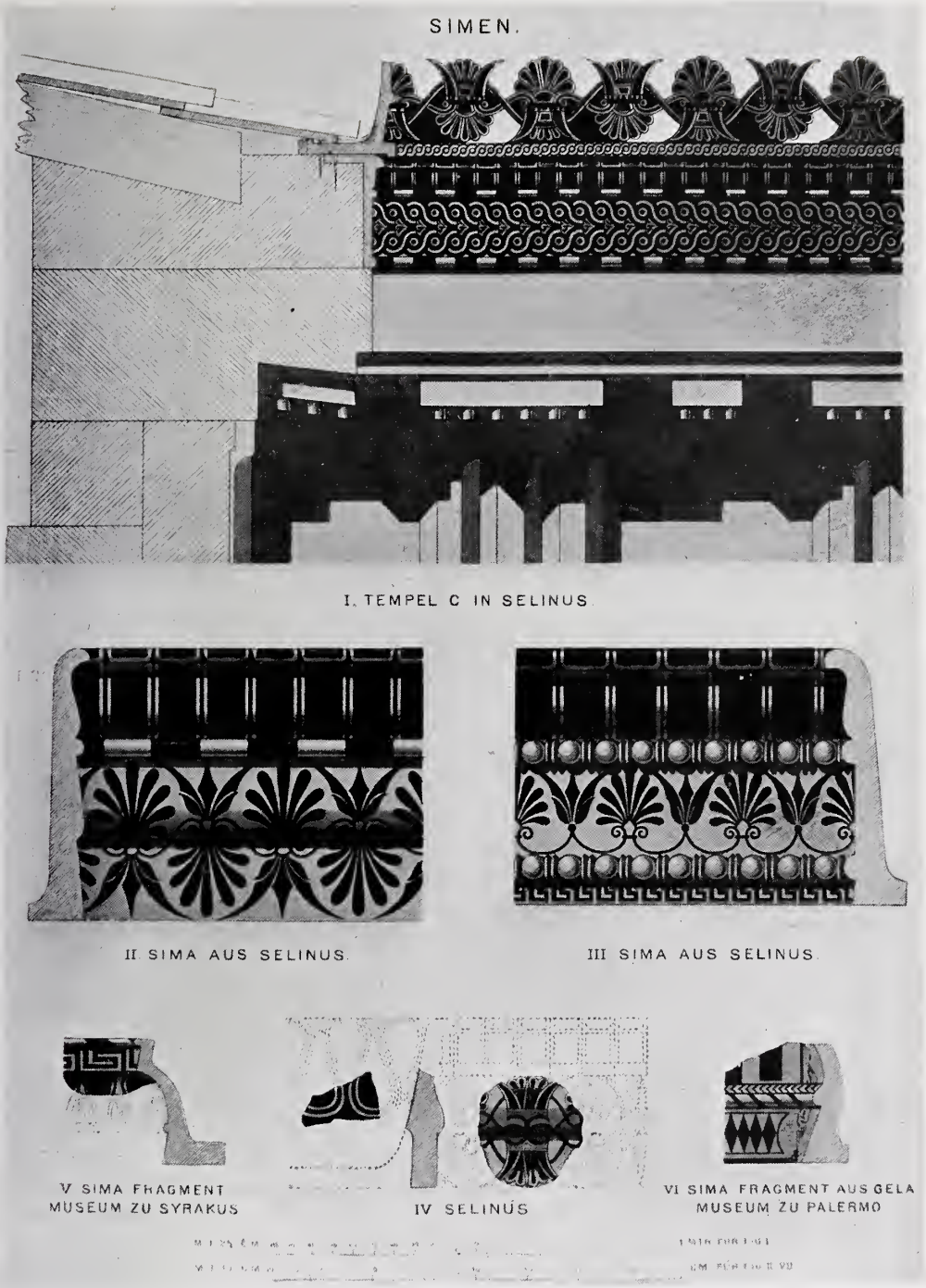
4. DETAIL, POLYCHROME ROOF TILES.

simple ornamentation. A great variety of decorative roof-tile is reproduced in Dachterrakotten aus Campanien, by H. Koch.

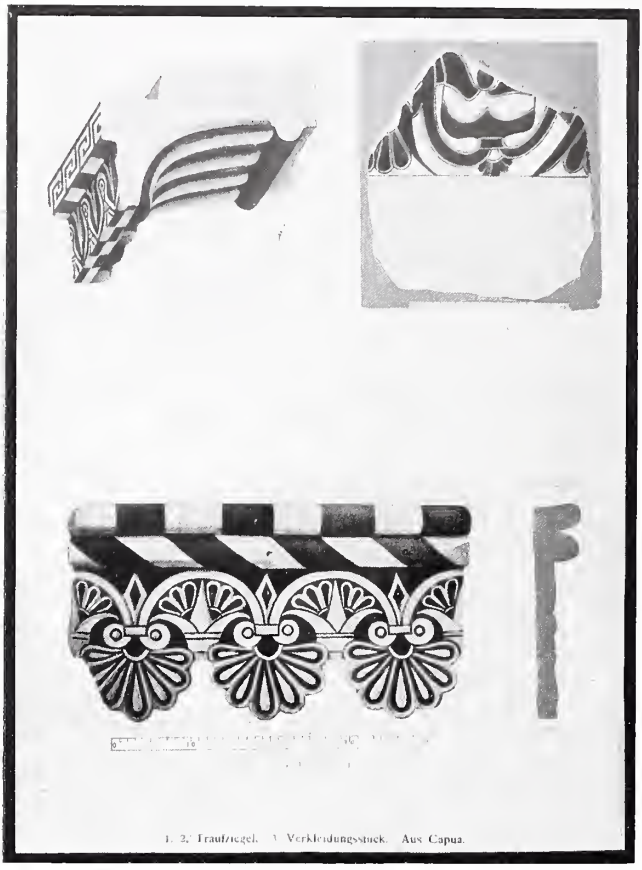
The Coloring of the Cornice

The treatment of the cornice in polychrome is one of the most difficult problems encountered in the planning of color for architectural effect. The designs developed upon each item must naturally be individually effective. By reason of the contiguity of the architectural members to be similarly treated, the design upon each must possess the quality of contrast, but must be devoid of competitive interest. The architectural integrity of each member must be preserved in decoration; that is to say, decorative values, or color values which have a mutual affinity, must not occur upon adjacent members. Finally, when viewed in mass, these varied design elements must constitute an entity of effect.

No better example could probably be found, embodying these complex design requirements, than the terra-cotta cornice of the Treasury of Gela. Great brilliancy in effect, combined with subtle color quality, is achieved by a very skillful use of two colors only—red and black, upon a buff terra-cotta ground. Despite the virile strength of each of these superimposed bands of ornamentation, no confusion is sensed architecturally. This is due to the skill with which distinct design and color values are established upon each architectural unit. With the aim of keeping each molding distinct from its neighbor, our first impulse in design would probably be to vary the scale of proportion of detail upon each. This simple solution was deliberately avoided by the designer of this cornice. We find



5. POLYCHROME CORNICES FROM SELINOUS.



6. POLYCHROME CORNICE DECORATION.

the broad lines which figure so prominently in each of the superimposed details to be of uniform width, and realize how important a factor this becomes in the ultimate unification of the grouped designs.

The proportionate use of the red and black is manipulated most skillfully, with the purpose of preserving the identity of each architectural unit. This is achieved in the simplest manner. The detail of the guilloche decorating the frieze is almost entirely in black, the minimum amount of red being introduced only upon the three small petals which occur at the interlacing of the bands. In the rectangular pattern above the guilloche, red prevails, black being used as a strongly contrasting note. Above this decoration, we find a design so contrived that red and black are employed in alternation in equal proportions. Surmounting this group of patterns, the black fret is used, unrelieved by red, the obvious purpose being to create a border of sufficient strength to withstand the strong light against which it is placed. The manner in which the tori, which separate these varied designs, are decorated, is well worthy of study; no more effective or simple treatment could have been devised than these bands, chevrons, and spirals.

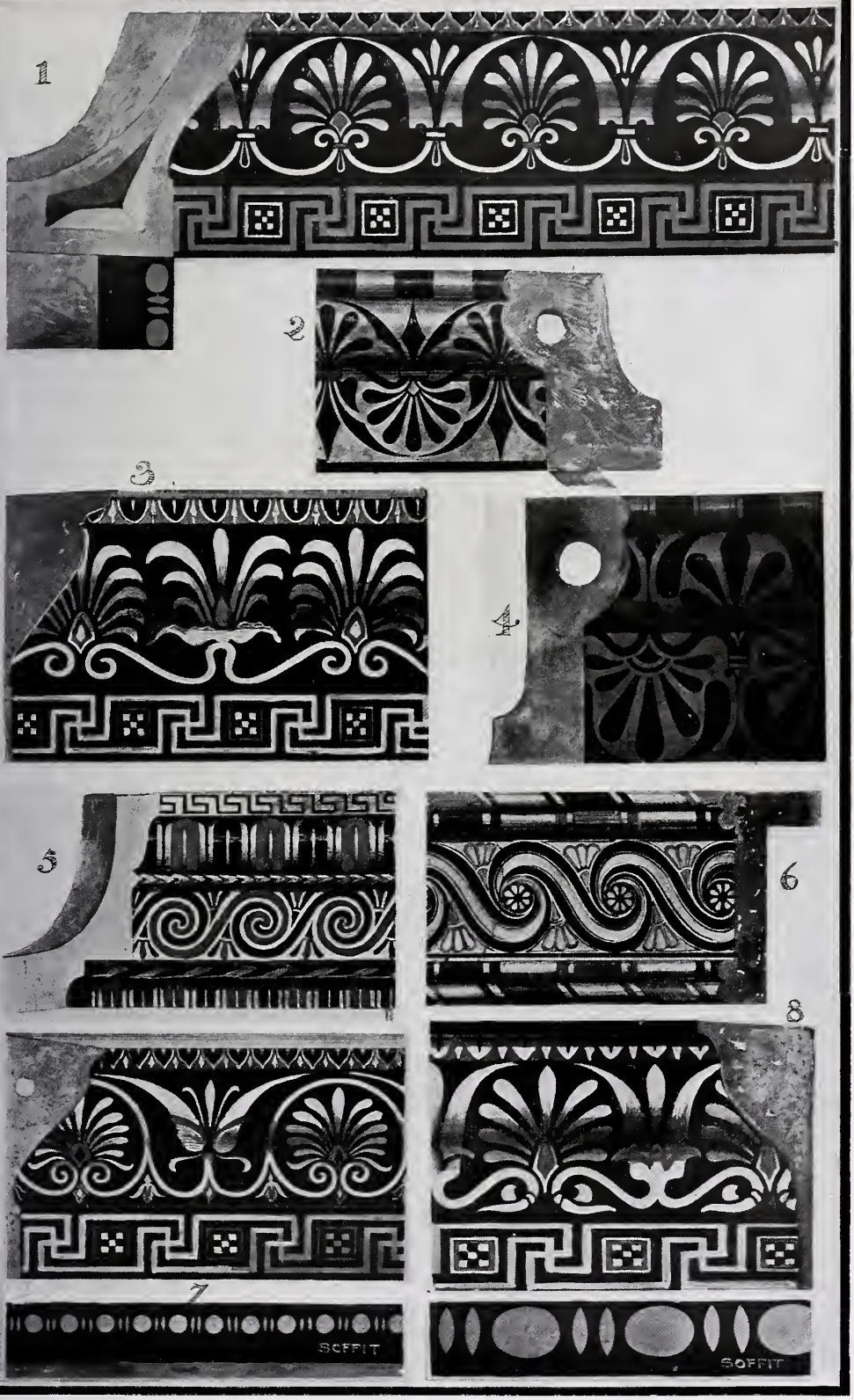
In Temple C. of Selinous a corresponding quality is realized; this, unfortunately, does not show in our illustration, which was taken from a color plate, the black and red having photographed the same tone. In this example the leaves decorating the cyma are treated in color alternation after the manner of Diag. E, Plate III. Refer to Parts I and II for illustrations showing cornice treatments of other types.

Colored Ornamentation Upon Moldings

The following is a description of the color treatment of the ten examples illustrated:

No. 1. Cyma. Pointed black leaves upon a red ground decorate the upper member; these colors are separated by a white line. The principal motif is silhouetted in white upon a black ground; the husks of the anthemia and the bands connecting the scrolls are enlivened with red. The fret is red upon a black ground; the square motif is black and white.

No. 2. Cyma. Upper member; black leaves upon a red ground; outline and bud in white. Principal motif white on black; red outlines the husk of the central palmette in our illustration, and also outlines the centre of the other palmette. Fret, red on black; a red outline frames the square motif, which is in black and white.


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SOFFIT

No. 3. Cyma. Black ornamentation upon a red ground.

No. 4. Cyma. A black fret decorates the topmost fascia. The leaves below the fret are treated with red and black in alternation; the lines separating the leaves are black and the ground buff. Torus; Chevrons in red and black alternately, upon a buff ground. Scrolls and flower petals; red and black in alternation. Fascia; black chevrons on buff. Leaf decoration on lowest member, red and black alternately.

No. 5. Cyma. Red and black are arranged in alternation upon the leaves and palmettes; ground, buff or ochre.

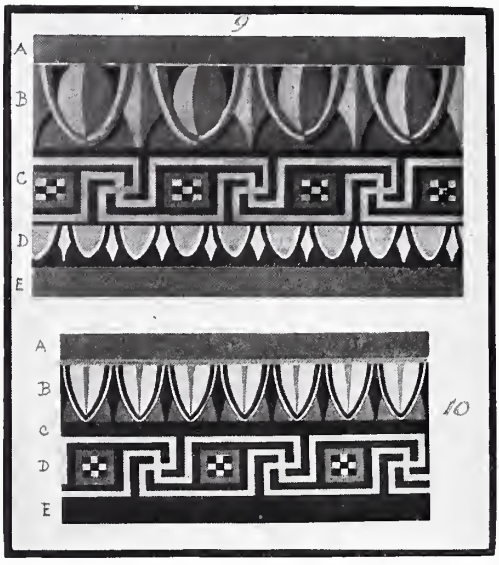
No. 6. Frieze. The ground color of this molding is a terra-cotta buff. Tori; bands of red and deep mulberry in alternation in the horizontal direction, but not in the vertical. Scrolls, mulberry, with floral motif outlined in red. Red and mulberry on the two lower Tori in complete alternation.

No. 7. Cyma. Practically a replica of the color planning in No. 1.

No. 8. Cyma. As No. 1.

No. 9. Triglyph molding. (a) Dark blue. (b) "Eggs" light blue and yellow, black used to indicate the upper fullness of the eggs. (c) Fret, red and blue; frame of square motif yellow, chequers in centre of square light blue and black. (d) Light blue and white upon a red ground. (e) Dark blue.

No. 10. Triglyph molding. (a) Light blue. (b) White leaves, blue centre line; inner outline of leaf red; dart, red; ground blue. (c) Dark mulberry. (d) Fret, red and white; frame of square motif yellow, chequers black and white. (e) Dark mulberry.



8. TRIGLYPH MOLDINGS.

ANTIFIXAE.

There is an enormous variety of interpretations of this detail. In Part III a few examples are reproduced of the simpler type, in which two colors are used in alternation upon the palmettes. The full-page illustration showing a variety of subjects, represents only a fractional part of the data which is available, and barely gives an impression of the latitude that the Greeks allowed themselves in design. Many of these have been taken from Van Buren's Figurative Terra-Cottas: a great variety can be seen in the H. Koch's Dachterrakotten Aus Campanien. Where the human head forms the motif, the following general formula for color treatment is followed: Hair and brows, black. Eyes; white eyeballs, red iris, black pupil. Eyelids; outlined in black. Lips, and often the cheeks, red. Yellow is used for certain accessory detail in some examples, e. g., berries or flowers. The ear-rings and jewelry on female heads are touched with color. When a shell crowns the head, the fluting or ornamentation decorating it is painted in alternating colors upon repeating detail. Though many examples can be seen which deviate from the above in minor details, this description of color location and treatment will be found to apply to the majority. The practice of outlining lips and eyes is general; the beard treatment shown in the top right and left illustrations is frequently practiced. The white lines drawn across the modelling are a simple means for rendering the waviness of the hair. Relative tone values have been reestablished in these cuts.



9. POLYCHROME ANTEFIXÆ



FRAGMENT OF POLYCHROME AKROTERION.



POLYCHROME AKROTERION OF LARGE TEMPLE—HEIGHT M. O. 98.

THE AKROTERION.

Comparatively recent discoveries by archæologists reveal to some extent the degree to which the Greeks regarded the designing of this item as an opportunity for imaginative effort. The symmetrical designs, such as those found at Aegina and Olympia, represent only one phase of treatment. The beautiful akroterion of Eos and Kephalos comes, in all probability, from a large temple, as it measuers m. o. 98 in height. Van Buren describes its coloring as follows: Eos; hair, brownish black; chiton, cream with a dark border; ear-rings and diadem, dark red with designs in cream and black. KEPHALOS; flesh, red; hair, brows and eyes, black. The ground is blue. The spirals on the reverse side are red and black upon a cream ground.



10. POLYCHROME AKROTERION FRAGMENT, BASE DETAIL OF GROUP.

HORSE. This is a fragment from the lower part of an akroterion group. Head and neck, cream; mane, red; small feathers upon the shoulder of the wings, red outlined in cream; long wing feathers, inner row black and cream alternately; outer rows cream and red alternately; torus, black imbrications with a double outline in cream.

WARRIORS. The detail is intricately colored in black, red and cream.

With subjects of this character it is obviously impossible to generalize, but from the above description a fair impression of color effect may be gathered.

(To be continued)



ENTRANCE FRONT—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

A COUNTRY HOUSE IN THE ITALIAN MANNER

RESIDENCE OF JOHN L. BUSHNELL, ESQ.—SPRINGFIELD, OHIO
~ LEWIS COLT ALBRO, ARCHITECT ~

By
Mallack Price

EUROPEAN derivation in the matter of style, as a point of departure for the American country house, is by no means a new thing. French châteaux, English manors and cottages, and Italian villas have been built in this country for these many years past, and for some time the only very noticeable advance made by the adapters was the choice of the models they copied. They graduated, that is, from copying Swiss châlets and a particularly atrocious variety of nouveau riche French villa and maisonette, and became far more careful in their selections. But for a long time they did not seem to feel that there existed, in the American house of European derivation, any opportunity for individual thought or creative architecture. When architectural copies were not literal and unimaginative, they were often debased and unintelligent.

But today the stylist works very differently. To begin with—he thinks. If the thing required of him, for example, is an Italian villa, he does not seek a complete villa to copy, ruining, perhaps, a beautiful model by arbitrary enforcement of its form upon a totally unsuitable "replica," or pseudo-adaptation. He approaches his problem in a far more intelligent manner—in the only manner, in fact, through which truly architectural results can be achieved in transplanting to the present-day United States an architectural style of another land and another age.



SUN ROOM—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

The architect of today, in designing in a historic style does not take a given European building and a modern American plan, and by destroying each in an effort to bring them together, effect a miserable architectural compromise which is neither a beautiful dwelling to look at, nor a comfortable and convenient one in which to live. His procedure is to take the plan, highly developed along modern American living requirements, and from that point to design the three-dimensional aspect of the house as nearly as possible in the manner of, for example, of an architect of Renaissance Italy. In this way an architectural expression is achieved which possesses real merit because it is logically developed and intelligently reasoned. An Italian villa of this kind is not an affectation and not a compromise, because the vital requirements of the problem have not been sacrificed to an arbitrary scheme of design or to an arbitrary plan.

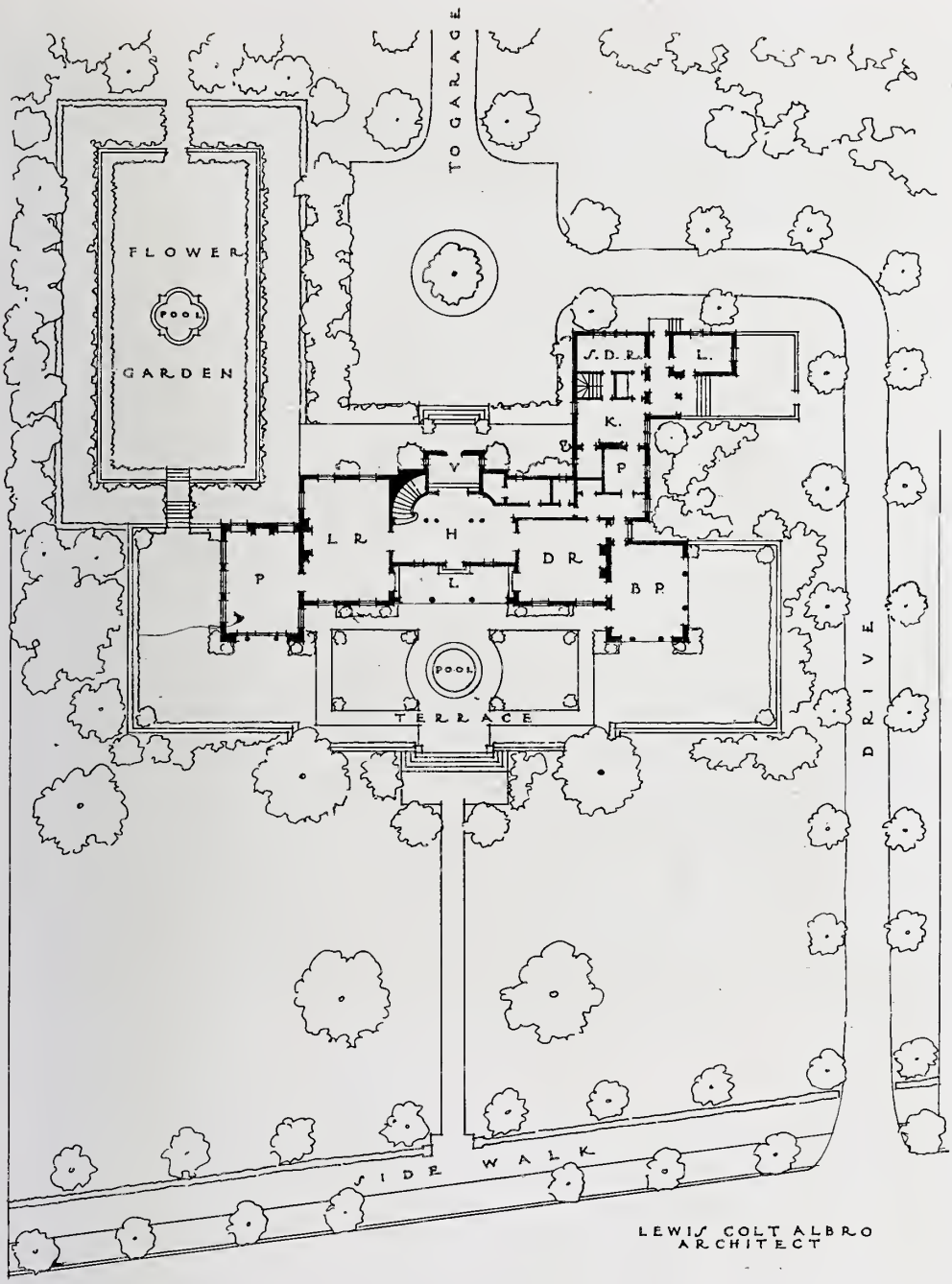
The validity of this thesis seems to be strongly demonstrated in a recent house designed by Lewis Colt Albro for Mr. John L. Bushnell, at Springfield, Ohio. I have, intentionally, not called it "an Italian villa," because it is not a villa and it is not Italian. Nor, by this, do I mean any disparagement whatever of the architect's ability—I only mean that he is an American and that Springfield is in the United States. It is a country house in the Italian manner—and by this no mere academic quibble is intended. Perhaps it is largely because we have spoken carelessly of Italian villas, French châteaux and so forth that we have come to think of them as mere misapplied replicas, even when they were not, and because we have failed to bring out the thought that only the style, or manner of design, and not the complete house is, as the case may be, either



DETAIL OF LOGGIA OR ENTRANCE FRONT—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
LEWIS COLT ALBRO ARCHITECT.



CARRIAGE FRONT—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO. LEWIS COLT ALBRO, ARCHITECT.



BLOCK PLAN—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO. LEWIS COLT ALBRO, ARCHITECT.



DETAIL OF ENTRANCE—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

Italian or French. This careless designation has helped to obscure the all-important recognition that, in the European adaptation in this country, "style" cannot and should not be swallowed *in toto*, but it is better regarded as something like a building material. "Style" is not the whole thing, it is simply the manner in which you elect, or are required, to design the house, just as you may elect, or be required to design it in frame construction or in brick. Style, of course, may modify a plan to some extent, but one point to be brought out is that the present tendency (fortunately) is to build a house which is first a modern American dwelling, and second an adaptation of a European style: not to build a house which is first an adaptation of a European style and second, if at all, a modern American dwelling.

The fortunate part of the new tendency, as far as the architectural standard is concerned, is that it is possible to make a house far more Italian, in essence and spirit, when the Italian man-



ENTRANCE FRONT—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.



STABLE AND GARAGE—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.



ENTRANCE HALL—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

ner is used (and far more intelligent), than if an attempt is made to literally reproduce an actual Italian villa. This, I think, is apparent in Mr. Albro's country house illustrated in these pages.

The plan is a symmetrical one, and the house and its setting together show a certain well-disposed spaciousness and largeness in arrangement and treatment. Although the house is not on a large estate, its seclusion from the road and from the adjacent properties has been admirably managed.

A long brick wall from the street leads to a formal terrace, also of brick, with terra cotta water-jars and a circular pool. The design of the front which faces this terrace is of the symmetrical character of a "garden front," with its gracious loggia and balanced masses to right and left.

The color of the stucco is a quiet cream tone, and the ironwork is detailed with pleasant simplicity. The picture is completed by blue-green shutters and an overhanging wood cornice, stained brown and polychromed. A distinct note of interest is added to the loggia by the coloring of the plaster vaulting in blue.

The entire width of the loggia is taken up within the hall, which is treated in a peculiarly dignified and restful man-



DRAWING ROOM—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

ner, with travertine walls and columns, and an unusually graceful iron stair-rail. The living-room, with an enclosed porch or pavilion opening from it, is at the left of the hall, and at the right the dining-room and breakfast porch, with a long, irregular service wing disposed at right angles behind them.

The driveway, which runs in to the right of the house, carries past and around this service wing, to a turn-around, where steps and a terrace lead up to the carriage entrance, which is at the back of the hallway within.

Further back on the property is the garage, which offered the architect, in its broad wall expanses, an excellent opportunity to make a decidedly Italian exterior, with picturesque tiled ventilators and a better opportunity for pure stylistic rendering than is afforded by the fenestration of the house.

There have been many larger and more pretentious houses in the Italian manner, or purporting to be, but this one seems pleasantly adequate as a semi-country home. There is ample space, and even spaciousness—but not too much. It seems to reflect a high degree of architectural good taste and restraint, a new architectural sincerity that has grown increasingly apparent in this country during the past ten, or even fifteen, years.

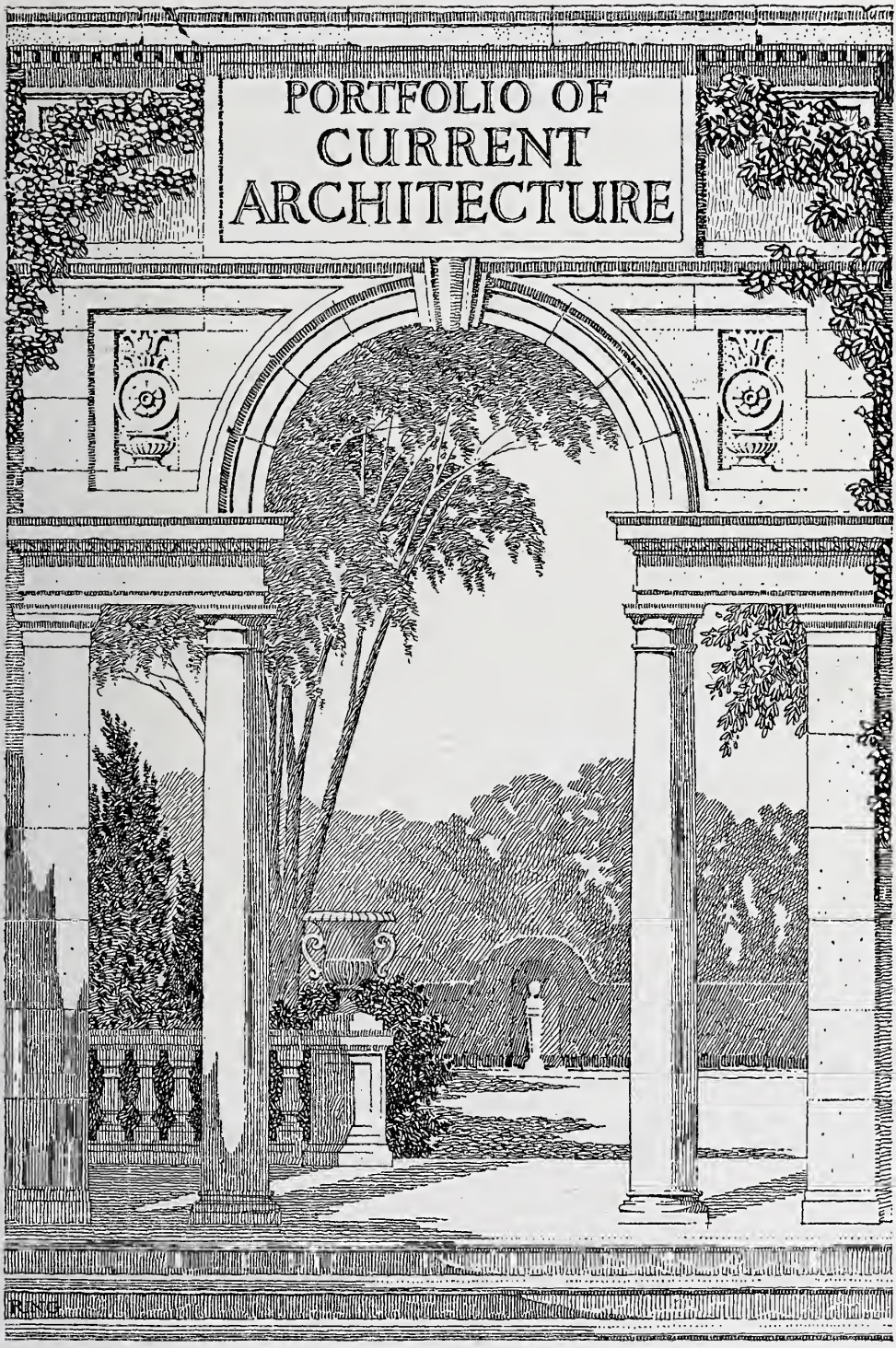
This new sincerity has been evidenced, among other indications, by a decline, almost a reversal, of the old idea of building an elaborate and ornate "show place." The reassuring aspect of this, sociologically as well as architecturally, is found in the fact that even people who can well afford to build a "show place" do not want one. It is out of tune with the times.

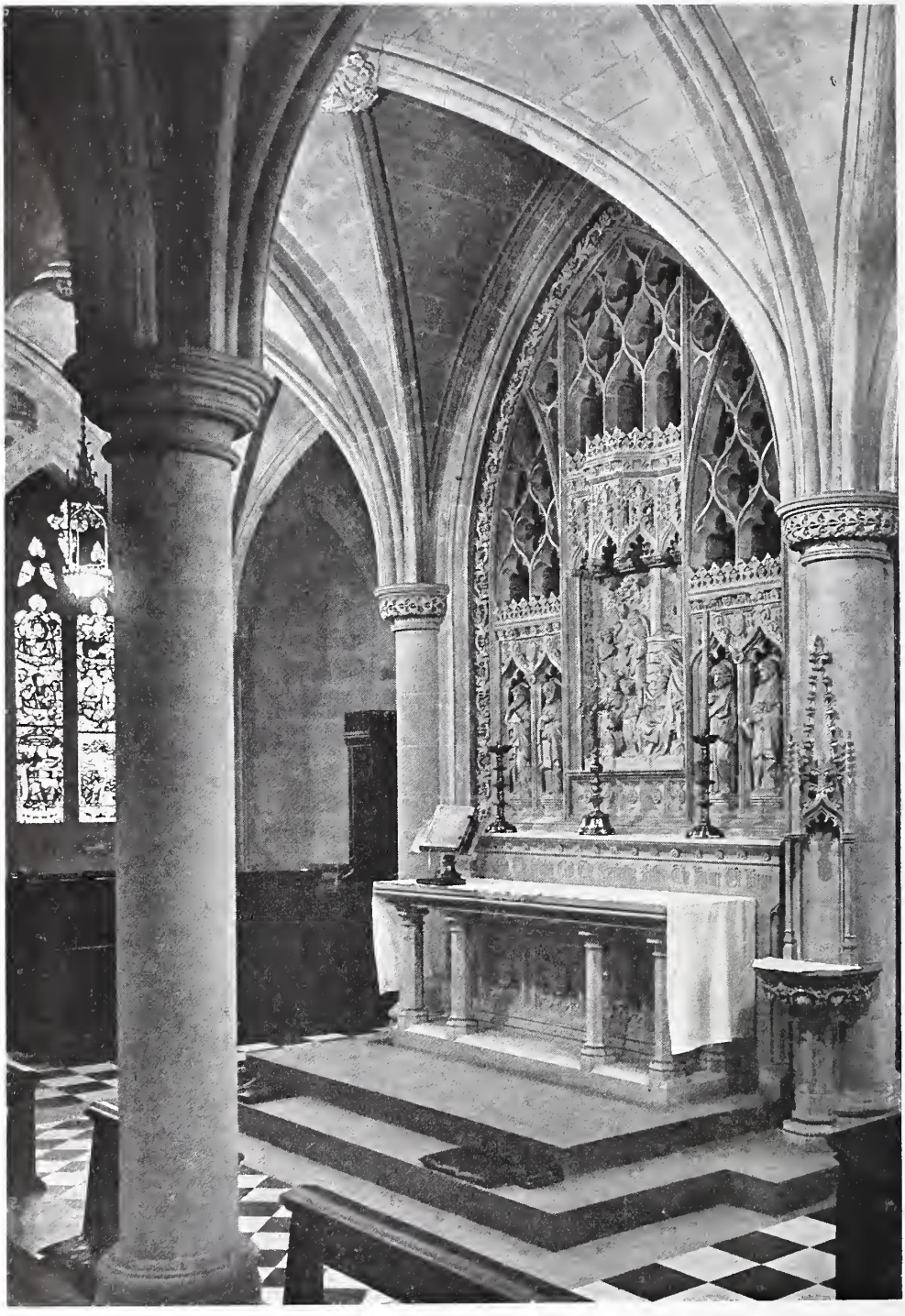
Inside and out, the home has undergone a remarkable and almost a complete change for the better. Architectural environments—interiors—in good



DINING ROOM—RESIDENCE OF JOHN L. BUSHNELL, ESQ., SPRINGFIELD, OHIO.
Lewis Colt Albro, Architect.

taste gradually but insistently demanded furniture in good taste. Furniture has improved so far in character that it now, in turn, demands a fitting architectural environment. People want good things, but they are far more particular about the things being good than being showy and ostentatious. Honest oak and walnut and mahogany have largely supplanted gilt and ormolu, and honest brick and stucco and plaster have largely supplanted more sophisticated and overwrought materials. If this is not a new architectural sincerity, it is something so nearly like it that all sincere architects cannot but take heart, and feel a growing conviction that the recent interruption suffered by building in general may perhaps have resulted in the very real compensation of doing away with an awful lot of sham and insincerity and many other forms of architectural nonsense.


PORTFOLIO OF
CURRENT
ARCHITECTURE



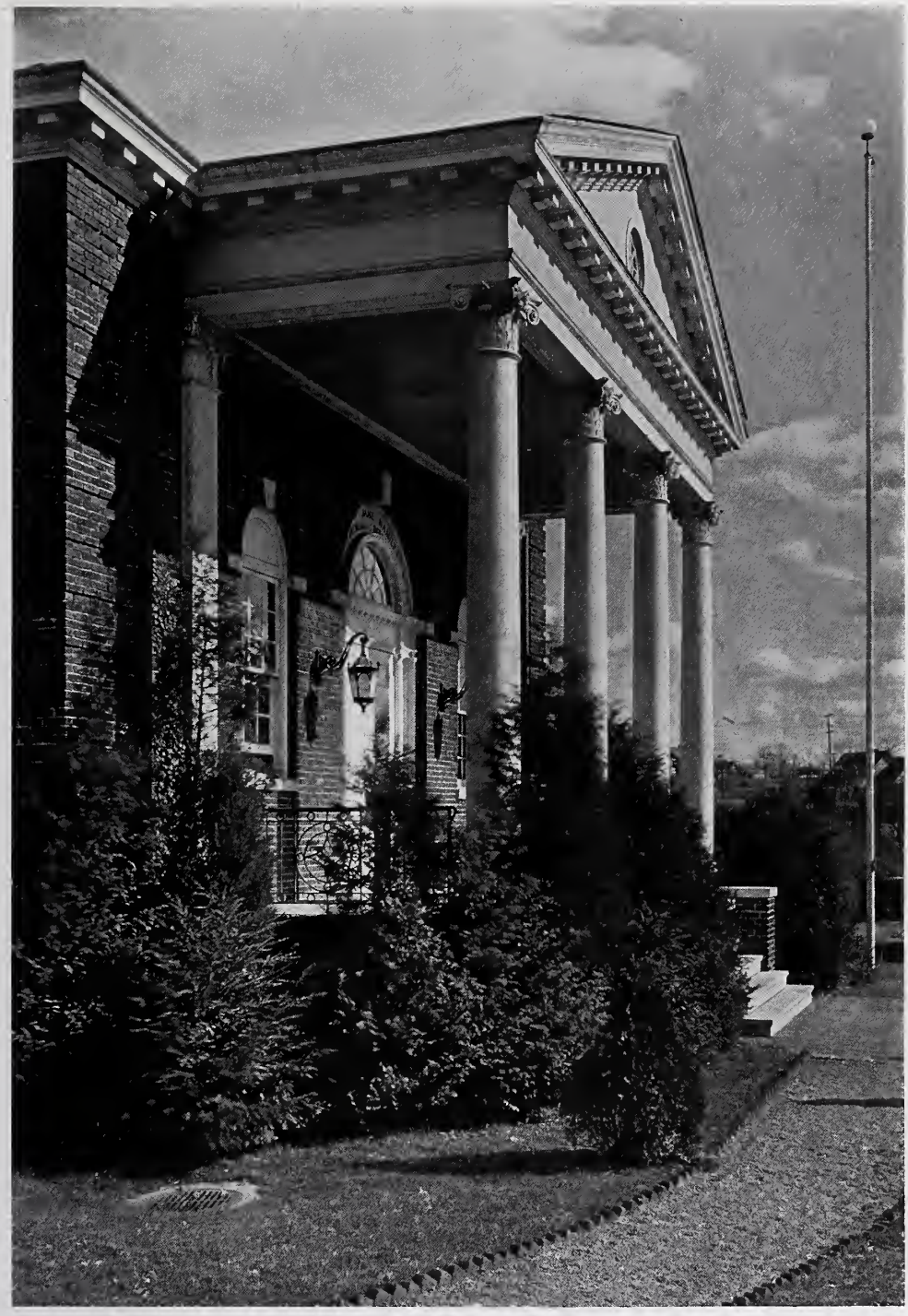
ALTAR—BETHLEHEM CHAPEL, WASHINGTON CATHEDRAL, WASHINGTON, D. C. HENRY VAUGHN, ARCHITECT.



GENERAL VIEW OF APSE—WASHINGTON CATHEDRAL, WASHINGTON, D. C. HENRY VAUGHN, ARCHITECT.



BETHLEHEM CHAPEL, WASHINGTON CATHEDRAL,
WASHINGTON, D. C. HENRY VAUGHN, ARCHITECT.



FRONT OF AUDITORIUM BUILDING—HALL SCHOOL AND CONVENT, BERNARDSVILLE, NEW JERSEY.
WILLIAM WHITEHILL, ARCHITECT.



HALL SCHOOL AND CONVENT, BERNARDSVILLE, N. J.
WILLIAM WHITEHILL, ARCHITECT.



A SMALL HOUSE, PELHAM, N. Y.
LAWRENCE M. LOEB, ARCHITECT.



WEST SIDE—COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE. E. S. CARPENTER, ARCHITECT.



EAST SIDE—COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE. E. S. CARPENTER, ARCHITECT.



SOUTH AND EAST SIDES—COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE. E. S. CARPENTER, ARCHITECT.



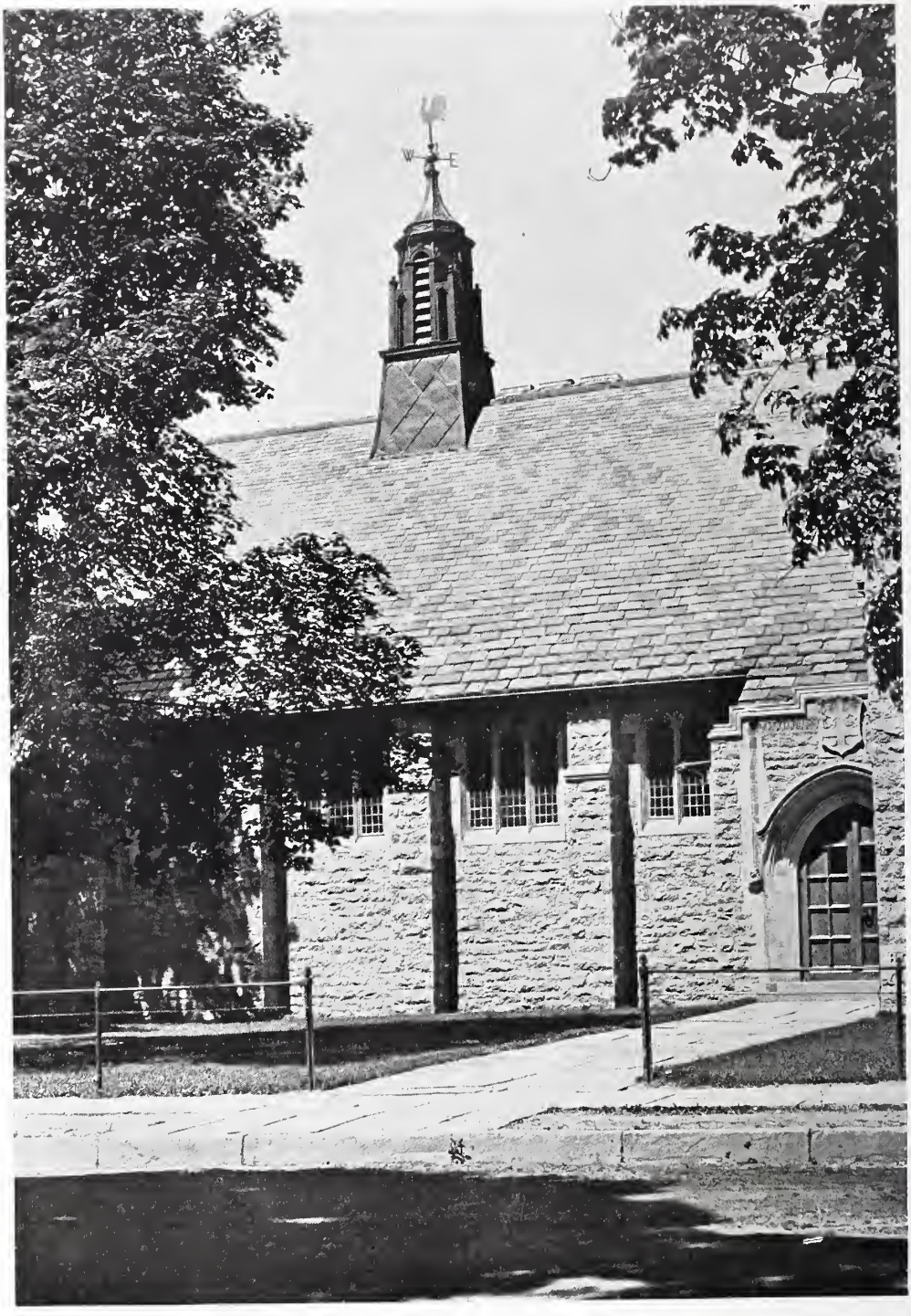
GENERAL ELEVATION—RESIDENCE ON 75TH STREET, NEW YORK CITY. HARRY M. CLAWSON, ARCHITECT.



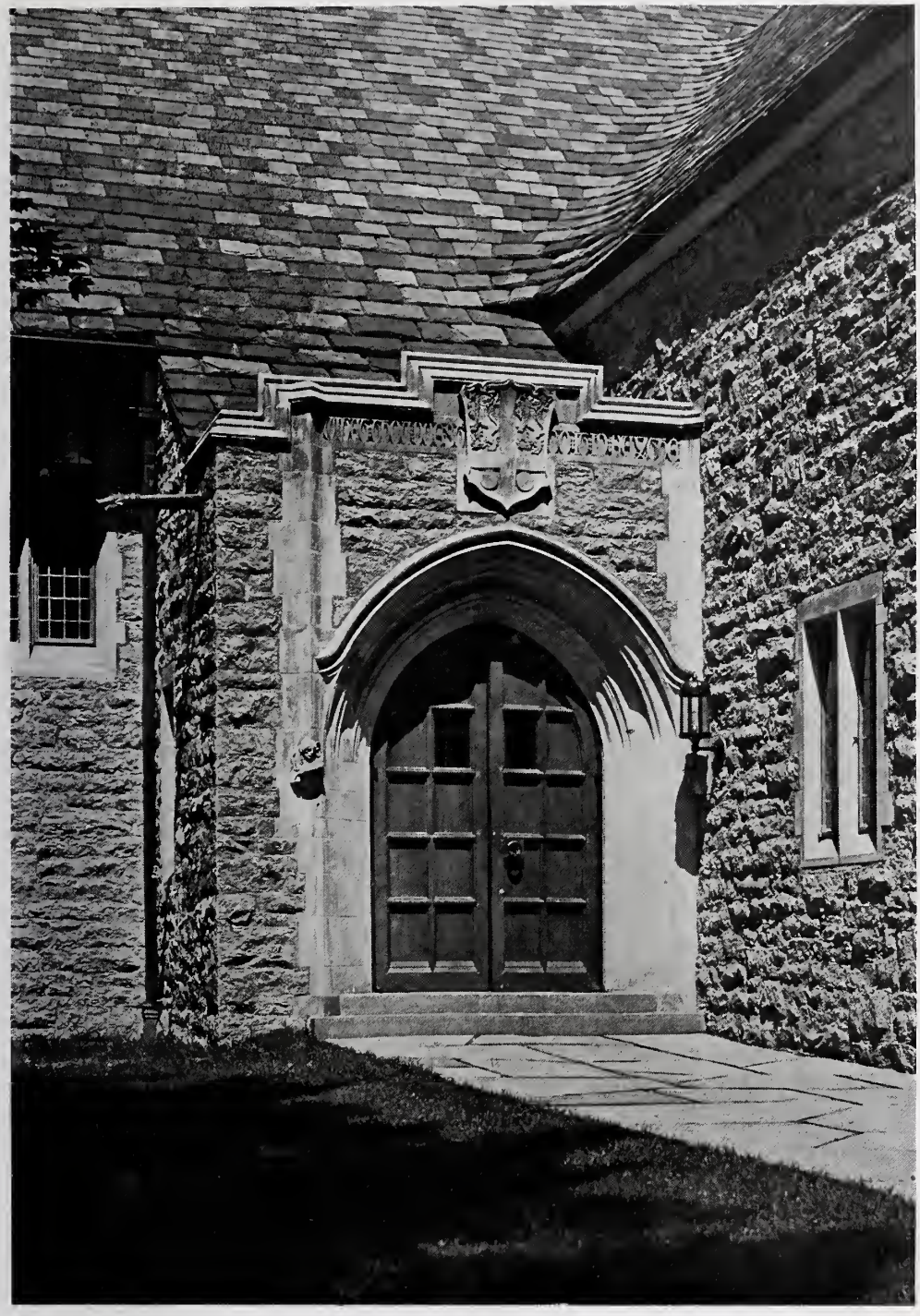
ALCOVE IN LIVING ROOM—RESIDENCE ON 75TH STREET, NEW YORK CITY. HARRY M. CLAWSON, ARCHITECT.



LIVING ROOM — RESIDENCE ON 75TH STREET, NEW YORK CITY. HARRY M. CLAWSON, ARCHITECT.



FRONT — PARISH HOUSE OF ST. PETER'S CHURCH, MORRISTOWN, N. J. BERTRAM G. GOODHUE, ARCHITECT.



ENTRANCE DETAIL—PARISH HOUSE OF ST. PETER'S CHURCH, MORRISTOWN, N. J. BERTRAM G. GOODHUE, ARCHITECT.



HALL — PARISH HOUSE OF ST. PETER'S CHURCH, MORRISTOWN, N. J. BERTRAM G. GOODHUE, ARCHITECT.

TVSCAN LAVABOS AND FIREPLACES

BY

HAROLD DONALDSON EBERLEIN
& ROBERT B. C. M. CARRÈRE



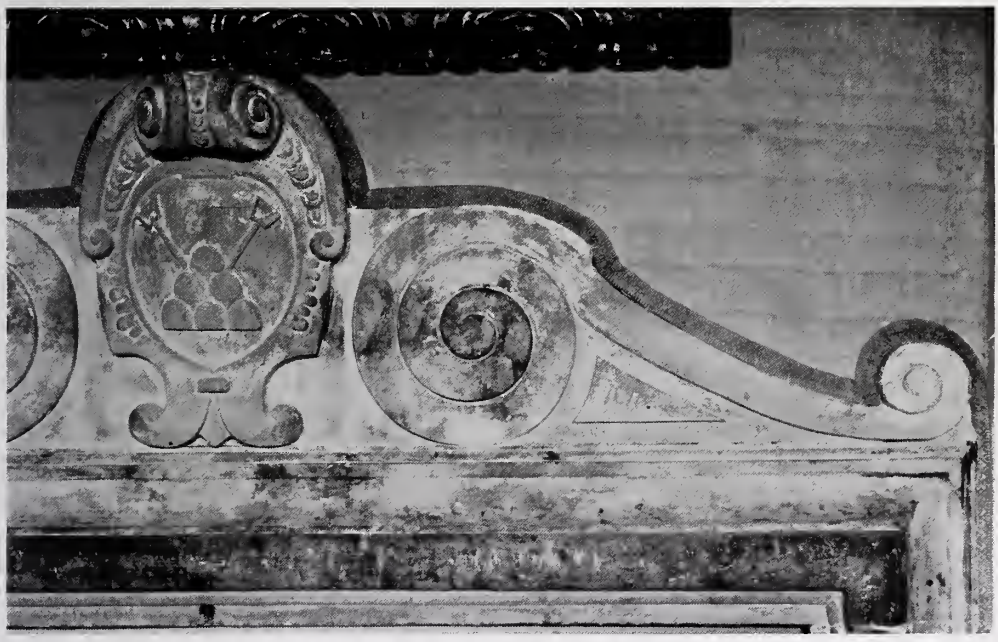
Detail from Lavabo, La Pietra



LAVABO—DINING ROOM,
LA PIETRA, FLORENCE.



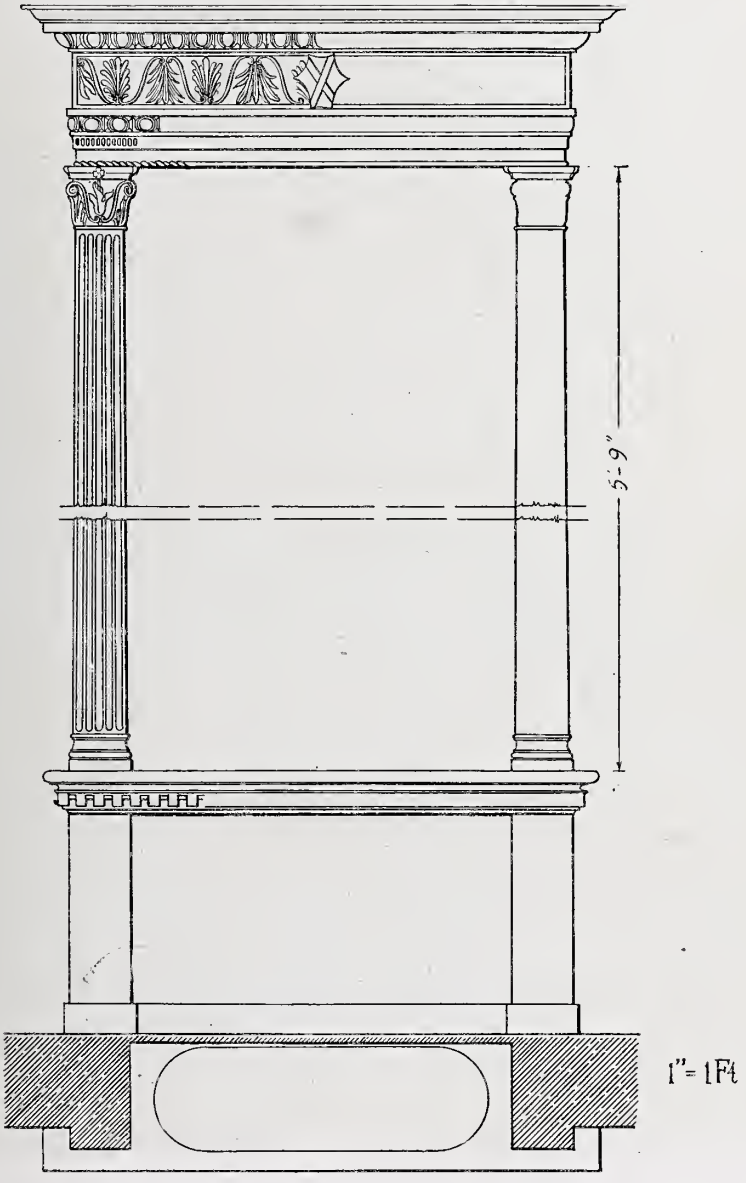
DETAIL OF LAVABO, LA PIETRA.



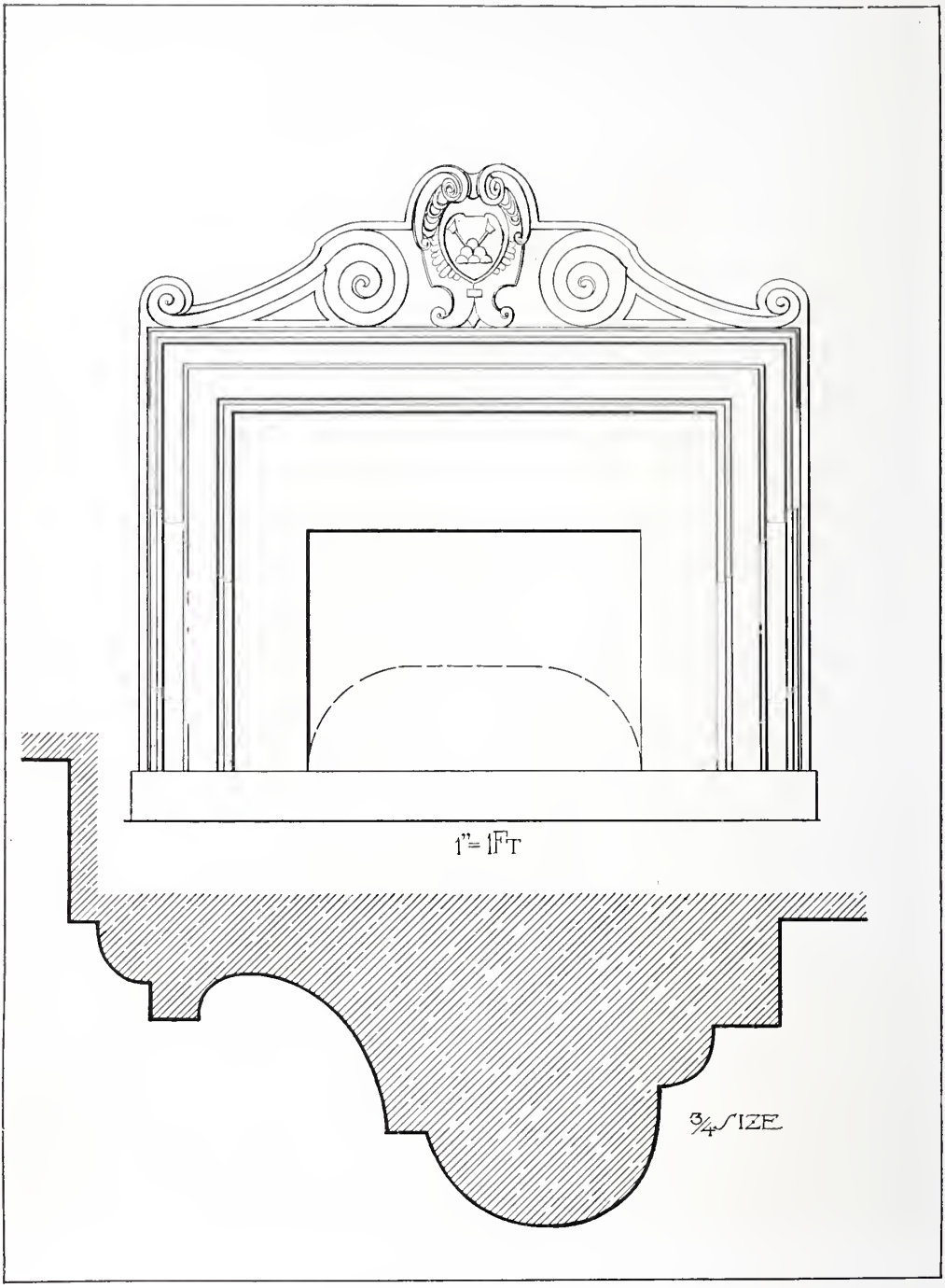
DETAIL OF FIREPLACE—BEDROOM, LA PIETRA, FLORENCE.



FIREPLACE — BEDROOM,
LA PIETRA, FLORENCE.



LAVABO—DINING ROOM,
LA PIETRA, FLORENCE.



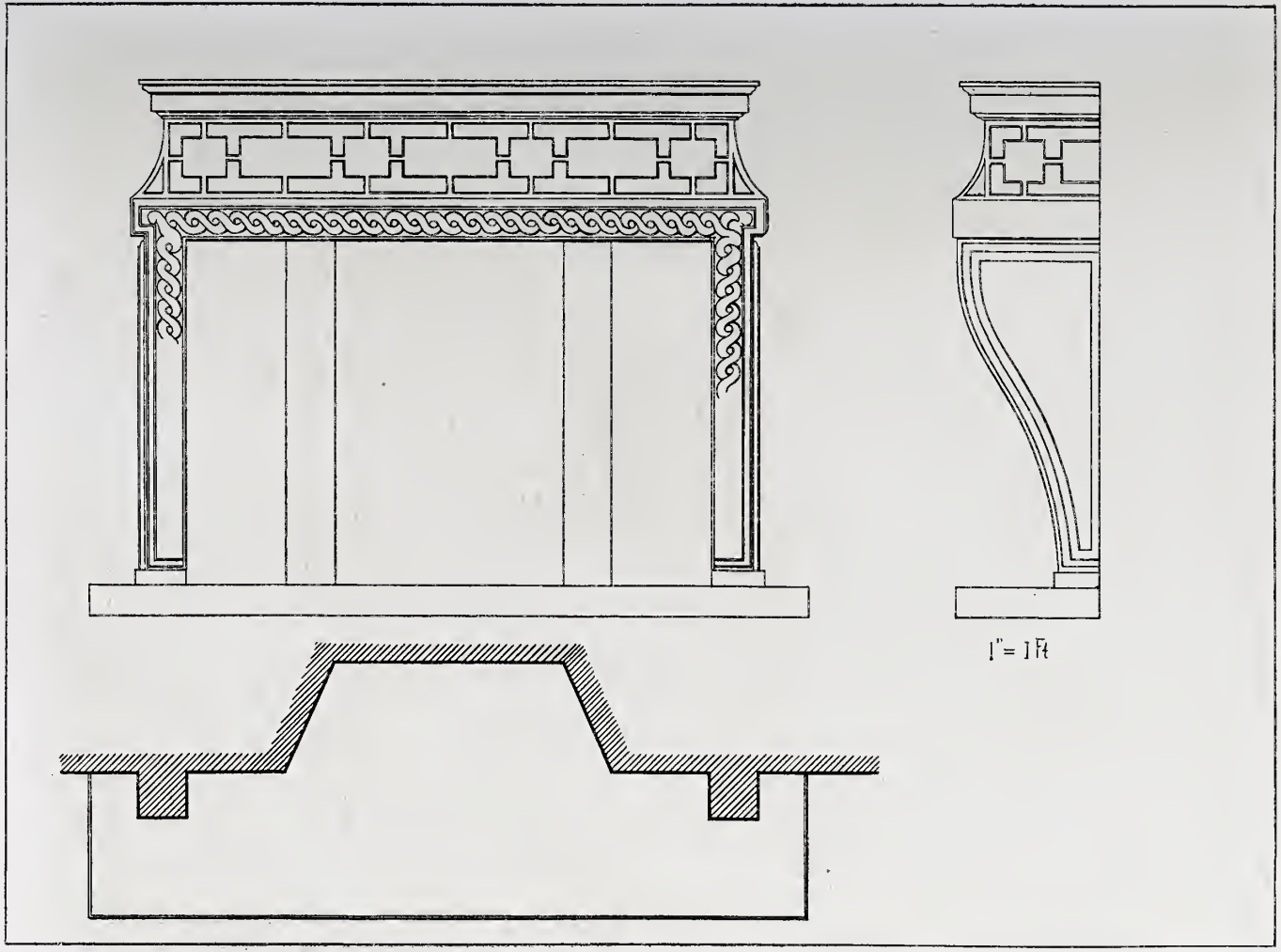
FIREPLACE — BEDROOM,
LA PIETRA, FLORENCE.



LAVABO—CORTILE, LE CORTI,
SAN CASCIANO.



FIREPLACE—DRAWING ROOM,
VILLA SASSETTI, FLORENCE.



FIREPLACE — DRAWING ROOM,
VILLA SASSETTI, FLORENCE.



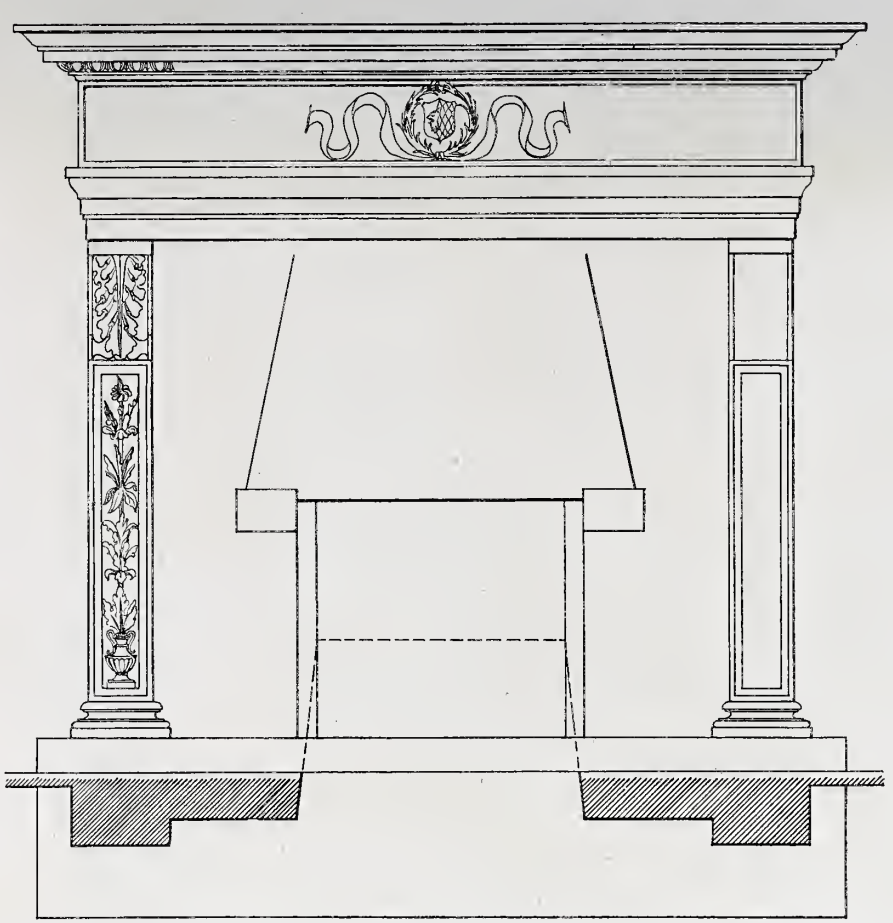
FIREPLACE—DINING ROOM,
VILLA COLLETTA.

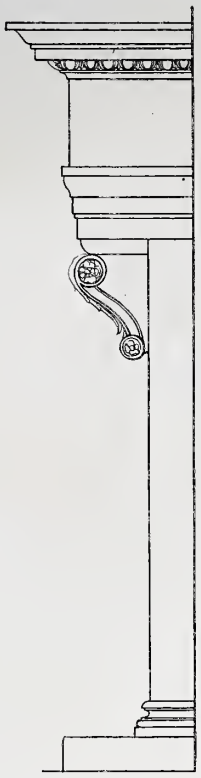


FIREPLACE—BALL ROOM,
LA PIETRA, FLORENCE.



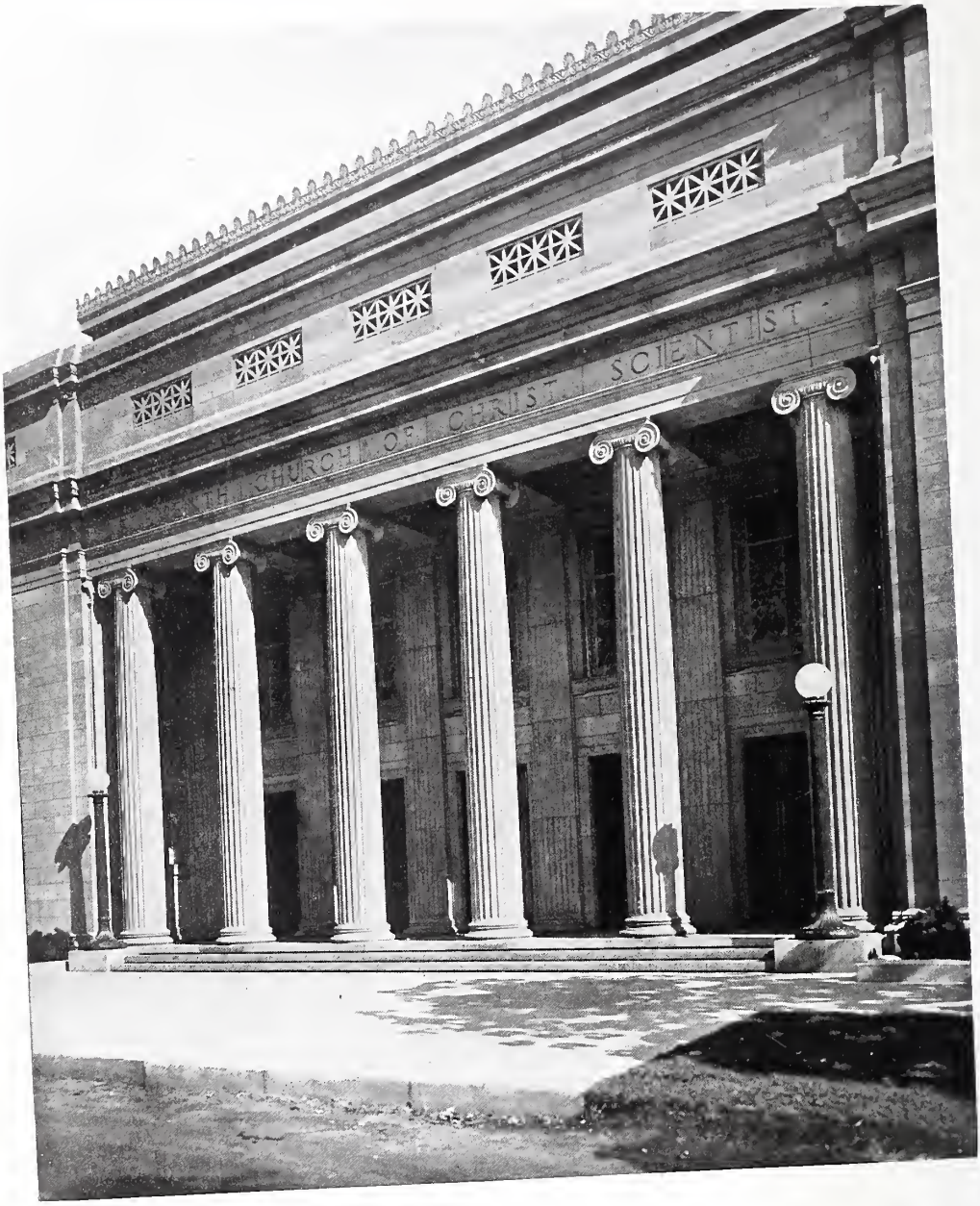
FIREPLACE—DINING ROOM,
LA PIETRA, FLORENCE.





1"=1FT

FIREPLACE—DINING ROOM,
LA PIETRA, FLORENCE.



PORTICO—ELEVENTH CHURCH OF CHRIST, SCIENTIST, CHICAGO, ILL. L. E. STANHOPE, ARCHITECT.

The ELEVENTH CHURCH of CHRIST, SCIENTIST CHICAGO, ILLINOIS

LEON E STANHOPE ~ ARCHITECT ~

By Robert H. Moulton

THE growth of the Christian Science movement in the United States has resulted in recent years in the erection of numerous church edifices, designed almost without exception on classic lines and forming one of the most notable groups of houses of worship in the world. Among these structures few excel in simple beauty and harmonious design the recently completed Eleventh Church, Chicago, of which Leon E. Stanhope is the architect. This church, occupying a prominent corner on Logan Boulevard, covers an area of ninety by one hundred and twenty feet. It is fifty feet in height to the top cornice, exquisite in proportion, dignified yet dominating in mass, and pure Greek in detail. The entire exterior is of buff Indiana limestone; harmonizing with this are a low, hipped roof of standard gray shingles, and steel window frames glazed with a delicate shade of golden opalescent glass.

The most striking frontal feature is a wide portico supported by six Ionic columns. The shafts are monoliths and the total height of the columns is twenty-five feet. From this portico one enters through one of five double doorways into a vestibule forty-five feet in width and eight feet in depth. On the foyer wall, directly opposite the middle doorway, is a mantel and fireplace of remarkable beauty, trimmed in pavonazzo marble, and in each end wall are three wide stained glass windows. The flooring of the foyer consists of tessellated mosaic tiles in black and white. The main auditorium lies above this foyer and is reached by four broad staircases, each seven feet in width, two of which are placed in tunnels and two in well-lighted stair halls.

The auditorium is a magnificent room eighty-five feet in length, ninety-five feet in width, and thirty-five feet in height, designed in a classic style to be in keeping with the exterior. An eight foot aisle runs around the four sides, separated from the main audience room by thirty concrete monolithic Ionic columns. The ceiling is barrel shaped, pierced with stained glass ceiling lights, and the decorations are in putty shades with blue and gold high lights in the ornament. Brown carpets and genuine American walnut seats and furniture are employed exclusively. The artificial lighting in the auditorium is derived from a series of indirect reflectors placed in the top of the main cornice around the four sides of the room, the result being a wonderfully efficient, soft, pleasing illumination, free from spots, objectionable shadows and glare.

The readers' desk on a platform at the north end of the auditorium is quite unusual and striking in design, while at the same time in thorough keeping with the rest of the room. An arrangement of both natural and artificial light overhead is such as to bring out its design and details from every viewpoint.

As a matter of fact, from every seat in the room, of which there are twelve hundred on the floor and three hundred in a cantilever balcony at the south end, a perfect and unbroken view of the entire platform is presented. This feature, combined with the unusual acoustic qualities of the room, makes the auditorium practically perfect for the uses to which it is put.

In the wall behind the platform is a magnificent pipe organ, operated by electrical control from a keyboard placed at the extreme northwest corner of the auditorium, the same control also operating

an echo organ and chimes in the south wall over the balcony. The organ front consists of panels of pierced ornament above and below the main cornice.

The private rooms for church readers, such as are usually provided in buildings of this character, are at the north end of the building, back of the partition behind the readers' platform, and are decorated and furnished with studied simplicity. Two doors in the partition referred to, lead from the readers' quarters to the platform, and two other doors, placed at the corners of the room, and each four feet in width, serve as emergency fire exits.

The officers' and business rooms of the church are placed over the main auditorium and are reached by two private stairways in the extreme southeast and southwest corners of the building. There is a board room, fourteen by twenty-two feet; an usher's room of similar dimensions; a treasurer's room; a clerk's room; a fireproof vault, and storage rooms for folding chairs to be used in overflow meetings. These various rooms are decorated in putty shades, with brown carpets and walnut furniture. There is no wood trim in the building with the exception of the doors, all of which are walnut in harmony with the seating and the furniture.

The Sunday school room, with a seating capacity of five hundred, is on the ground floor directly back of the foyer. The ceiling of this room is twelve feet high, and perfect natural lighting is secured through large stained glass windows in the east and west walls. The Sunday school room, as well as the foyer, is provided with ample locker space where hats and coats may be checked, and under the foyer are commodious retiring rooms for men and women, with toilet facilities, in connection with the Sunday school, for boys and girls.

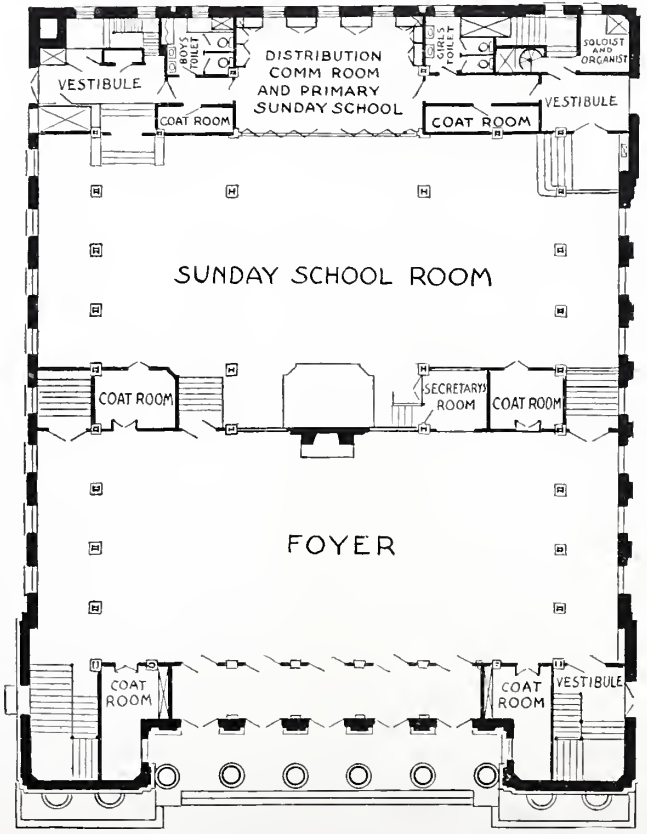
A unique feature heretofore neglected in buildings of this type, is a room seventeen by thirty feet located at street level back of the Sunday school for the use of the distributing committee of the church. This room is entirely walled with large magazine and book shelves from floor to ceiling, and is equipped with folding tables which can be drawn out from the side walls when desired by members of the committee. This room is separated from the Sunday school room by a folding partition, the intention being to use it on Sundays for the primary division of the Sunday school.

The construction of the building is strictly fireproof and exceptionally solid and massive. Reinforced concrete foundations extend to a depth of twelve feet below the street grade at the north end and eight feet below grade at the south end. Above the foundation the outer walls, entirely self-supporting from foundation to roof, are of brick masonry faced with buff Indiana limestone bonded into and forming a part of the walls. At a point nine feet on the inside of these walls and extending around the interior of the building, is a continuous colonnade of steel columns encased in ornamented concrete facing. These columns support the floor construction of the main auditorium and above that the entire roof construction, no loads from the roof trusses coming upon the exterior walls. The entire skeleton framework of the building is of steel, fireproofed with concrete. Six complete changes of heated air per hour throughout the building during the winter months, and cool air in summer, are obtained, respectively, by means of a battery of down draft smokeless boilers and two large electrically operated ventilating fans located in the basement under the north end of the Sunday school room.

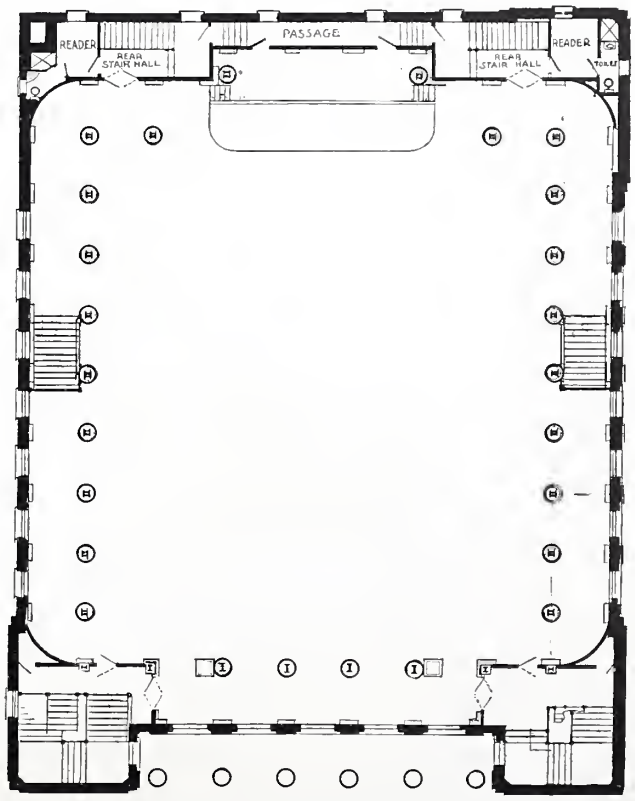
Prominent officials in the Christian Science movement have pronounced Eleventh Church, Chicago, to be the most solidly constructed, the most complete in equipment and furnishings, the most harmonious in detail and decoration, and the most perfect in the matter of lighting, heating, ventilation and acoustics of any of the branch churches. In these respects it is possibly only surpassed by the Mother Church in Boston.



ELEVENTH CHURCH OF CHRIST, SCIENTIST,
CHICAGO, ILL. L. E. STANHOPE, ARCHITECT.



GROUND FLOOR PLAN



AUDITORIUM FLOOR PLAN

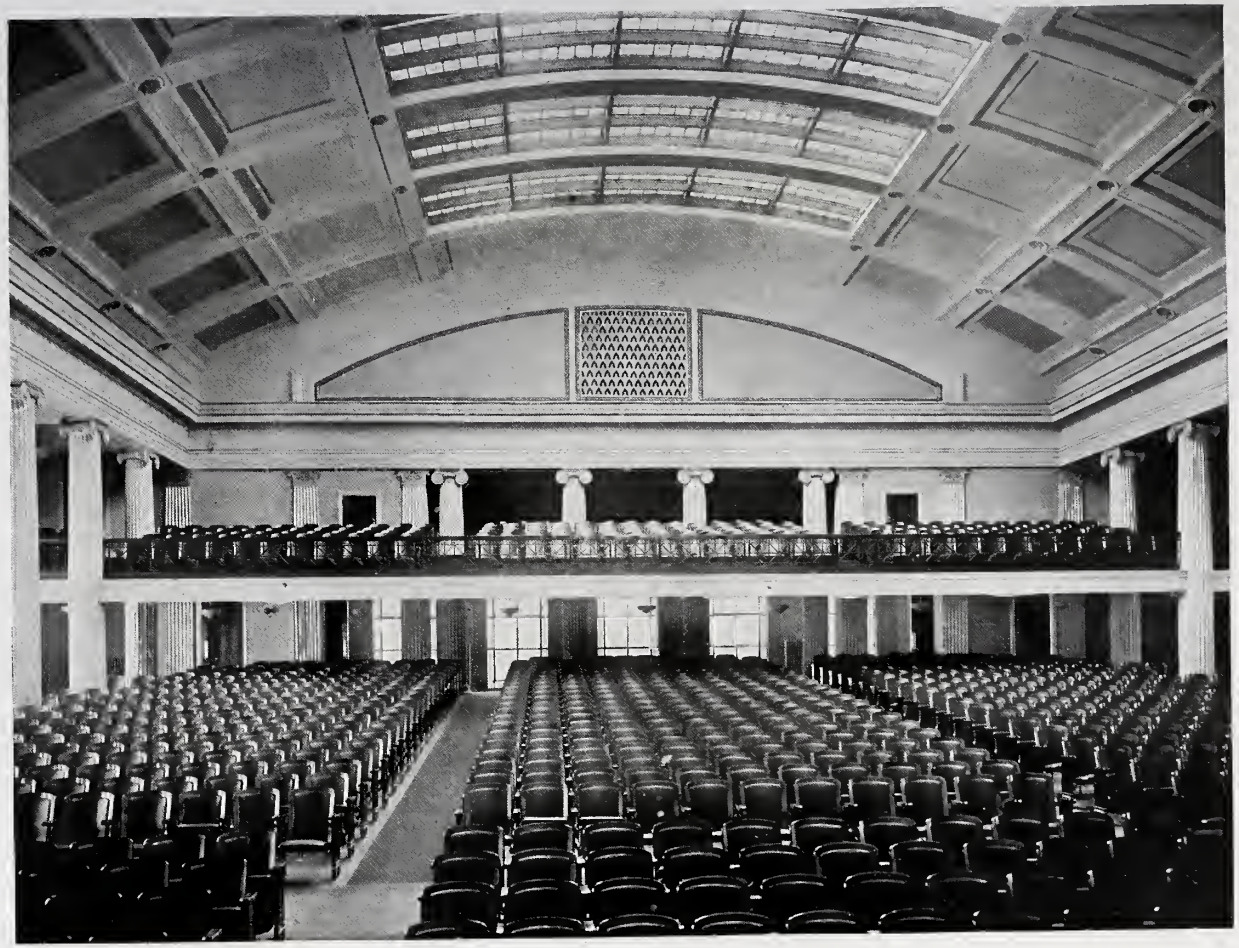
FLOOR PLANS—ELEVENTH CHURCH OF CHRIST, SCIENTIST, CHICAGO, ILL. L. E. STANHOPE, ARCHITECT.



READERS' PLATFORM, WITH ORGAN WALL BEHIND—ELEVENTH CHURCH OF CHRIST, SCIENTIST, CHICAGO, ILL. L. E. STANHOPE, ARCHITECT.



AUDITORIUM, LOOKING TOWARD READERS' PLATFORM—ELEVENTH CHURCH OF CHRIST, SCIENTIST, CHICAGO, ILL. L. E. STANHOPE, ARCHITECT.



REAR OF AUDITORIUM—ELEVENTH CHURCH OF CHRIST, SCIENTIST, CHICAGO, ILL., L. E. STANHOPE, ARCHITECT.



FIG. 142—DETAIL SKETCH OF ENTRANCE—APARTMENT HOUSE AT 190TH STREET AND MORRIS AVENUE, NEW YORK CITY. ANDREW J. THOMAS, ARCHITECT.

TENDENCIES IN APARTMENT HOUSE DESIGN

~ PART XI ~

~ The Unit Apartment Building and its Grouping ~

By FRANK CHOUTEAU BROWN

THOSE who have followed these articles thus far in their attempt at an analysis of a type of community dwelling still in the fluid state, will probably agree with the writer that, in the gradual tendency toward the accretion or clustering of dwelling units, a point has now been reached where it is hardly possible to increase the size of the architectural structure in which these units are contained without injuring both the comfort of the occupants and the rental value of the property.

We will not find it easy, however, to present any generally acceptable point where an agreement may be reached that, from this exact dimension, property is either injured or appreciated by increase or decrease in the size of the structure. It should have been apparent, nevertheless, in the previous articles, that the architect has constantly had either to adopt a plan idea, based on the use of a long public corridor to connect a single central elevator point with a number of individual apartments upon each floor, or to increase the number of staircases or elevators, and from these reach, without waste corridor space, only a few apartments on each floor—two, three or, at the most, four.

As a rule, we have found that the former method is best and most easily adapted to the building with large apartments, and the latter to the building with small apartments. A further analysis will disclose the companion fact that the structure containing these large apartments—while apparently of large size, must (unless the apartments are of the "Duplex" type) necessarily have only a small number of apartments to each floor—say two, three or four, in the majority of cases.

It will be equally apparent that a building covering the same amount of area, if given over to smaller apartment units, will contain some three or four times as many apartments to the same floor area—a number rather more than might have been expected; due to the great savings in waste hall and passageway space, and the rather smaller size of the room units appropriate to the more modest size of these smaller apartments.

The matter of building height will probably here enter to complicate the problem. With a building of three stories, and the smaller apartment unit, there exists no serious objection to the elimination of the elevator; by dependence upon a greater number of separate front staircases, it is both easy and economical to subdivide the floors into correspondingly small units of apartment groups. With higher buildings the question is less easily decided.

In or near a large city—such as New York, for instance—the height of the building easily rentable without elevator service increases naturally to five, or, in the lower rental "walk-up" apartments, to even six stories in height. In any favorite suburb (such as Cambridge) near a large city, a height of four stories without elevator is already accepted, and a possible five-story height is not very far over the horizon. Of course, the greater the rental expected the greater the amount of service that will be demanded, and the lower the height of the building in which an elevator would be required for service to at least the front

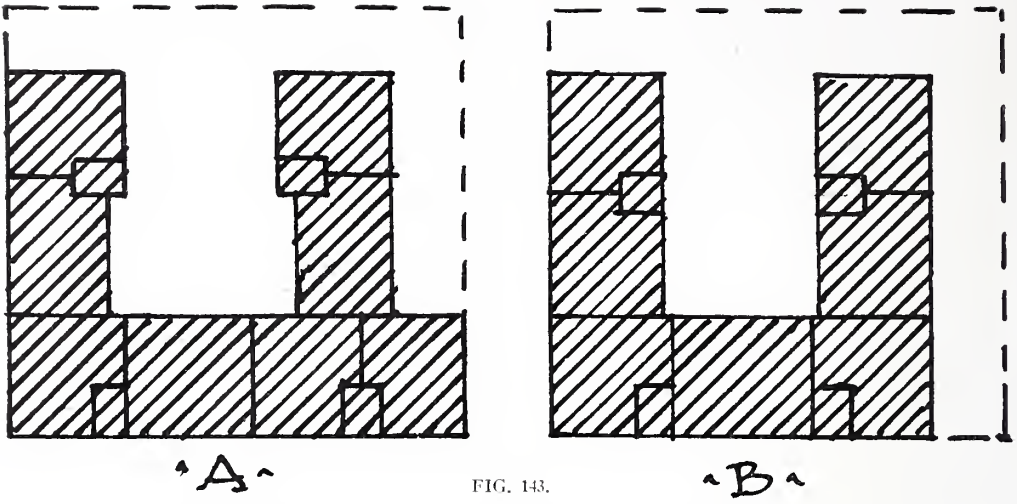


FIG. 143.

entrances of the apartments. As was evident in the last instalment of this series, however, the service approach to these same apartments can avoid elevator service for probably two additional stories.

One further fact should be recognized. The apartment with a large number of rooms, eight to twelve, or over, if on one floor, is generally part of a plan whose outline (around courtyards or owing to its location on external angles of the plan) is irregular enough to contain a sufficient number of cross angles to supply ample draught and ventilation comfort; this factor is certain to be lacking in the plan providing only two, three or four room apartment units. Therefore it becomes all the more necessary for the latter type of building to cluster a small number (two to four) of apartments around each main staircase or elevator approach.

Having reached this point, and likewise acknowledged that by far the greater number of apartment buildings with which we are concerned, do not much exceed the apartment unit of six room size, we must determine how many of these "staircase units" (referring to each separate group of apartments reached on a floor from one staircase) it is economical or desirable to include within a separate architectural structure, this being a point we have not yet considered. A decision on the matter becomes more imperative, because the logical development of the course of analysis we have been following indisputably points to a constantly growing size of the land plots to be developed. We must either continue to improve these with larger and larger structures, or with a number of smaller apartment units, separately contained and grouped, with some pre-determined relation to each other and the community as a whole.

It is perhaps best next to turn to some concrete example of a type of structure indicative of progress in the solution of this problem. Such a structure we can find in a building that has been recently started in New York. (Figs. 142, 145, 146 and 147.) This plan contains seven apartments on the floor, with four staircases, and is of six stories height—about the extreme limit for a "walk-up" type even in as large and crowded a city as New York—although the first story is only partly utilized for rental purposes.

This building is of the "U" shaped "Open Court" type, but the courtyard is intentionally turned away from the street frontage and, by its planting and development, made to become an asset in the occupancy and rental of the building. In other words, while we are again dealing with the "Open Courtyard" type, we find that the plan has been again turned

about, and that it has once more come to resemble in its general outlines the earlier building shape with a service courtyard on the back, from which the courtyard turned to the street frontage was a distinct development.

This older form, however, was generally given to apartments of larger size, whereas we now find that the favorite type in general use (at least in the vicinity of New York) is consistently of the smaller apartment type. This means, among other things, that the opportunity to use a rear court for service room frontage is no longer possible, because in these apartments, consisting of a small number of rooms, there are none that we can place in that category—all rooms are front rooms once more. Therefore, in turning the plan outline about and placing the opening of the court upon the rear, it is essential that this courtyard be made attractive to the occupants by planting and other devices, so as to be as much a "front" exposure, as the one actually upon the street.

The wider the court the better suited it will be to this form of development. These last few months, accordingly, an intensive effort has been made in New York City to work out a form of plan that would throw into one general area all the courtyards or light wells previously scattered around the type of plan generally acceptable in the past to apartment occupants in that city.

As between the long connecting corridor on each floor, and the separate stairway approaches reaching only two or three apartments on each floor, but permitting of cross draught through all the apartments, the latter has been unhesitatingly selected, and we can see at once how the inner courtyard increases in its value in a plan of this type. All the apartments, no matter how few the number of rooms to each, obtain a frontage upon *both* faces of the building. A number of the plans actually leave considerable choice in the use of the rooms to the individual tenants, so that they may use as living or sleeping rooms either those upon the inner or outer face of the building. This is a matter of considerable importance, particularly where the structure is located upon a noisy thoroughfare.

There is another matter locally accepted as a determining factor in these New York studies, though one that need not necessarily limit the problem in other communities.

In New York the endeavor has been recently directed toward finding the best arrangement possible on a lot of practically square proportions and of approximately one hundred feet frontage and depth. The reason for this is that in the type of "gridiron" plan imposed upon the development of that city, it happens that one hundred to one hundred and ten feet is the average depth of the lots, and by the purchase of the four or five lots coming upon an intersecting street corner, a frontage of practically one hundred feet may be obtained. Therefore these dimensions, after careful study, have been found adaptable to a plan development based upon the premises just explained, which at the same time produces a court of the minimum practicable width for a "Garden" type of treatment.

There are, however, other conditions which affect the problem. Sometimes an arm or wing faces upon a side street at right angles with the frontage, and occasionally there is an alley or passageway at the other side of the property parallel to this side street. But when neither of these is the case, the designer must decide whether to extend the arm down the party wall upon the extreme verge of the land, or whether to set it back from the property boundary.

In the former case he would have to abandon the two-room width ell (although he might adopt one of the several possible treatments shown in the March instalment, Fig. 107), or, if the lot to be developed were 20 feet or 40 feet narrower, he could cut the plan in half (March, Fig. 108) though with some sacrifice of his courtyard area.

If, however, the decision is made to complete the "U" shape of the plan, without regard as to whether or no a public passageway exists upon the inner

side of the property, the designer must then do one of two things. He must keep his building away by at least six to ten feet from the inside lot line, leaving an open court down that side, if he is to retain the two room width of the plan scheme he has adopted—and he may either carry this courtyard space entirely through to the street frontage of the lot (B-Fig. 144) or he can—as has generally been the previous best practice — close in the street end of this court by carrying the two room depth of the front portion of the plan across it to the property line (A-Fig. 144), thus inclosing that end of the side court — and, if he so desires, continuing the plan arrangement on around another court, making the full "E"-shaped plan (as at B in Fig. 144).

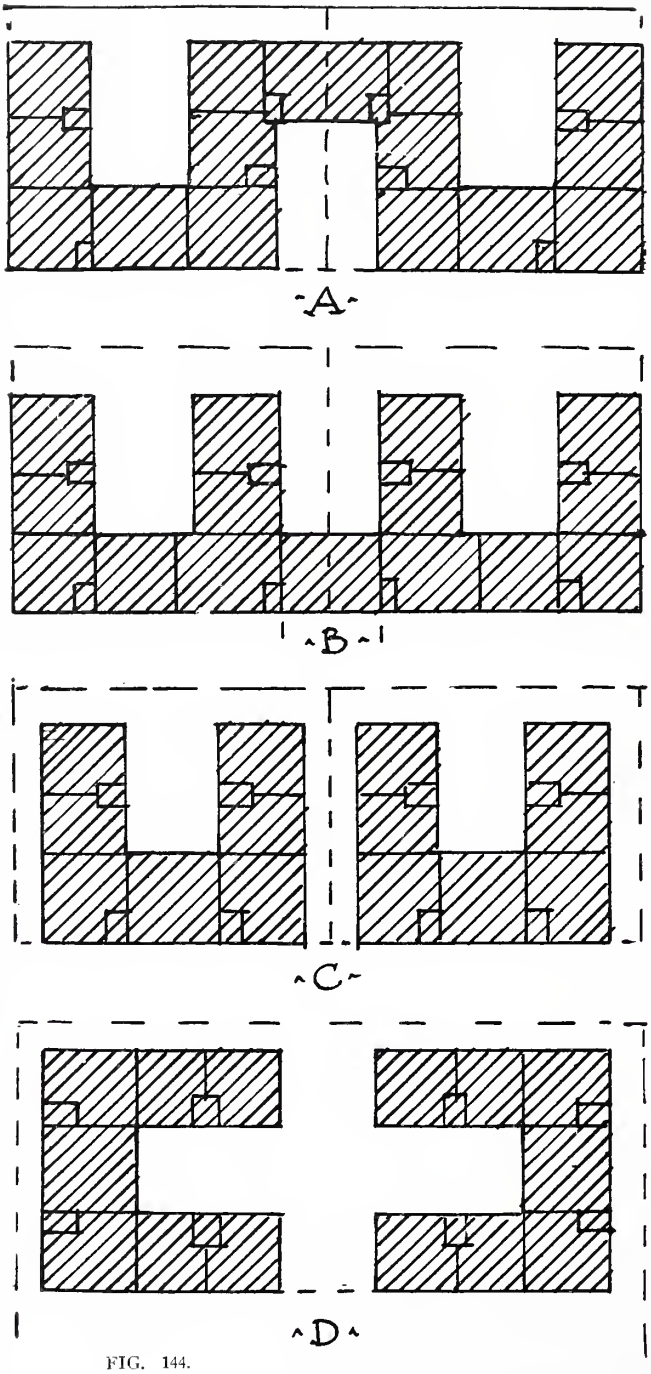


FIG. 144.

In New York the decision has been made by some of those most concerned with this study to carry this side court out clear to the street, and, if more property is owned and another apartment plan is to be built upon the next adjoining lots, to again begin a separate and independent development upon them, leaving a strip of unoccupied land from ten to eighteen feet wide between the two separate buildings that have thus been secured. (C-Fig. 144.) This type of plan is illustrated in detail in Fig. 145. The fully developed older arrangement was shown in March in Fig. 106.

If the designer accepts the fact that the ell upon the inner side of the "U" is the most economically practical development possible of his land, the only fair treatment of the tenants who will occupy the apartments next the enclosed side of the property

is to keep this court open to the street. These apartments will, at any rate, not be considered as desirable for rental purposes as those between the court and the street, but by carrying the open space existing between the building and the adjoining party wall, or the building and the next, through to the street, an opportunity is provided for a free movement of air between these walls, thus completing the cross circulation through the two room width of the structure that has been accepted as so important an essential of this plan.

If the end of this court toward the street is blocked by extending the front section across it to the party line (A-Fig. 143 or A and B in Fig. 144) the apartment placed across the end of the court will always receive good cross ventilation from street to court, or vice versa; but, unless its windows are open, the entire court has its movement of air partially restricted; and even when the windows in the obstructing apartments *are* open, the movement can never be as free and complete as when the end is left open and entirely unobstructed. There is, therefore, a distinct advantage in planning to obtain the fullest possible air movement between these buildings,

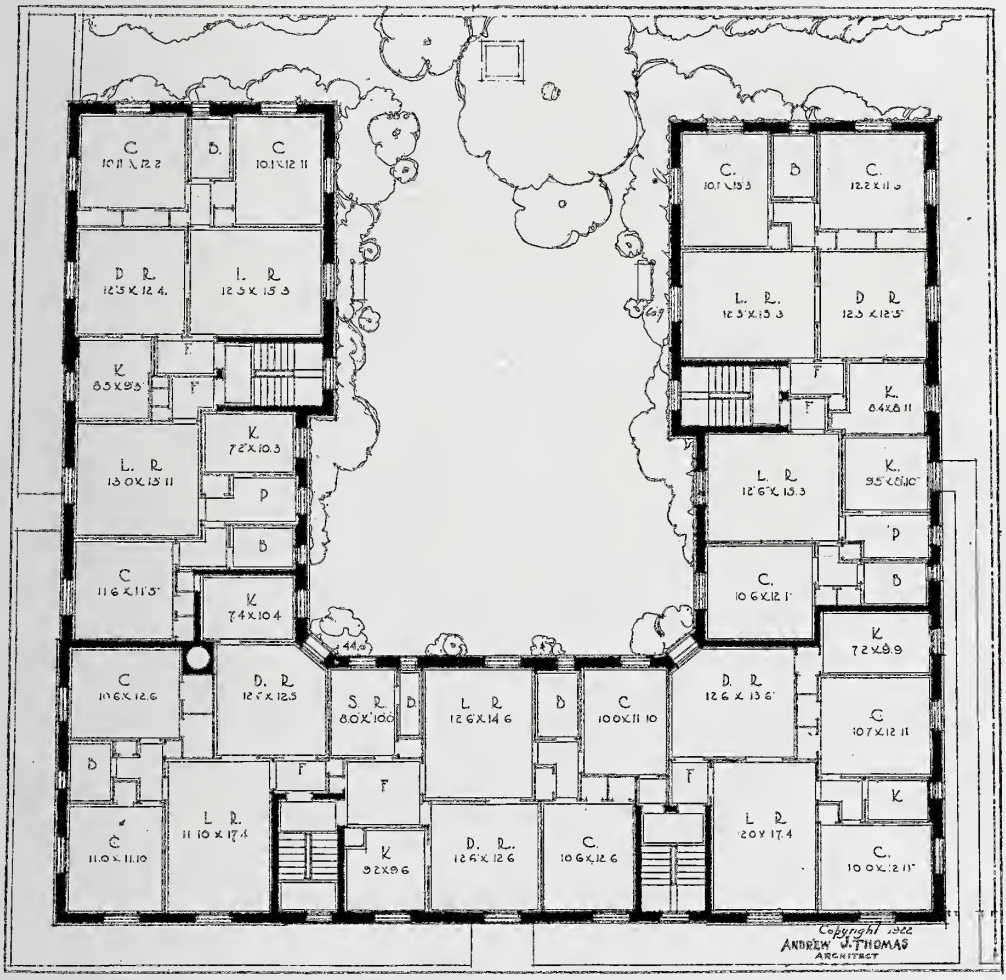


FIG. 145—TYPICAL FLOOR PLAN OF APARTMENT HOUSE, 190TH STREET AND MORRIS AVENUE, NEW YORK CITY.
Andrew J. Thomas, Architect.

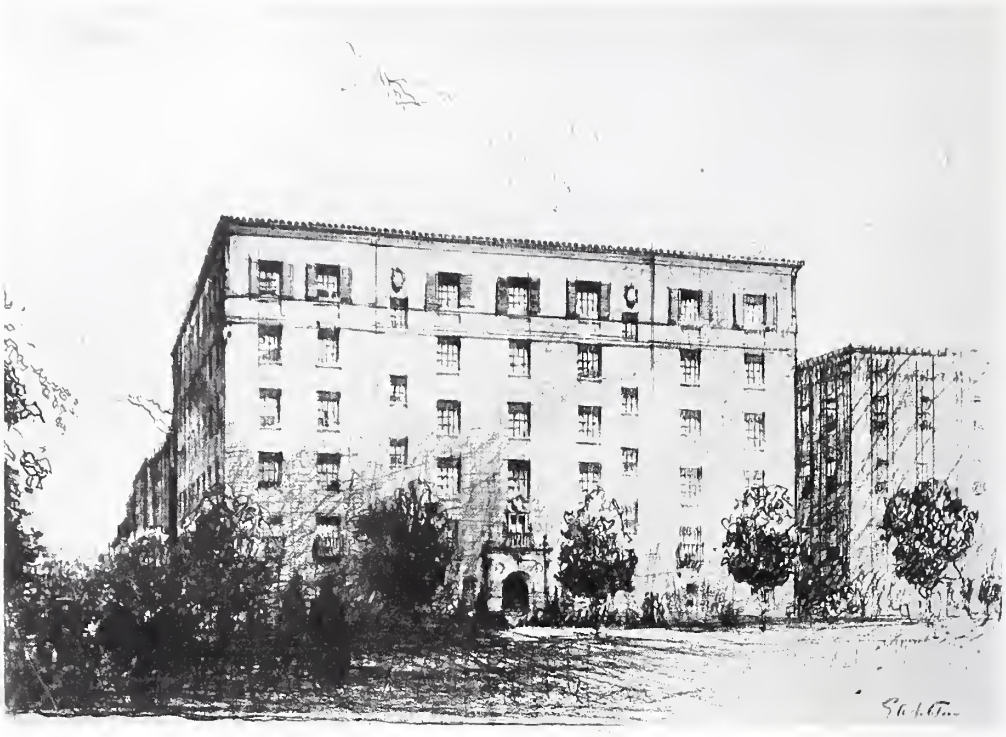


FIG. 146—APARTMENT HOUSE AT 190TH STREET AND MORRIS AVENUE, NEW YORK CITY.
Andrew J. Thomas, Architect.

whenever it is possible to provide the space necessary for their separation after this fashion; and, if a series of buildings is concerned, and the space between buildings can be as much as eighteen feet or thereabouts, it is probable that no appreciable diminution in the rental value of the apartments on these inner sides would be noted.

And it is this point that is being featured in the pursuit of these new studies of the apartment house planning problem. It is now considered that, after all, the value of the investment is lost or jeopardized if, in planning, the space is so restricted as to be the cause of future vacancies. It is better business judgment to plan the apartments so spaciously now that they will be able to continue to hold their tenants in the future, when the many new apartments then available will be drawing their occupants from the less desirable buildings of the older type then existing. They thus will, in the end, prove to be the more profitable to their owners. With this important thought in mind, let us examine more specifically the plan shown in Fig. 145 as it appears to those who have been studying the problem from the New York point of view. As we have already indicated, while this is not at present necessarily the point of view from which the problem will be viewed in other American communities, experience has often in the past proved that the New York solution of such a problem as this is the one that will, at some later time, come to be adopted either in part or in whole in other of our larger and growing cities.

This plan is the latest developed by Mr. Thomas, and he regards it as an improvement in many ways over any that he has hitherto devised; although it is merely to be considered as a more compact and economical working out of the same sort of plan solution that he has



FIG. 147—SKETCH OF CORNER OF COURTYARD—APARTMENT HOUSE AT 190TH STREET AND MORRIS AVENUE, NEW YORK CITY. ANDREW J. THOMAS, ARCHITECT.

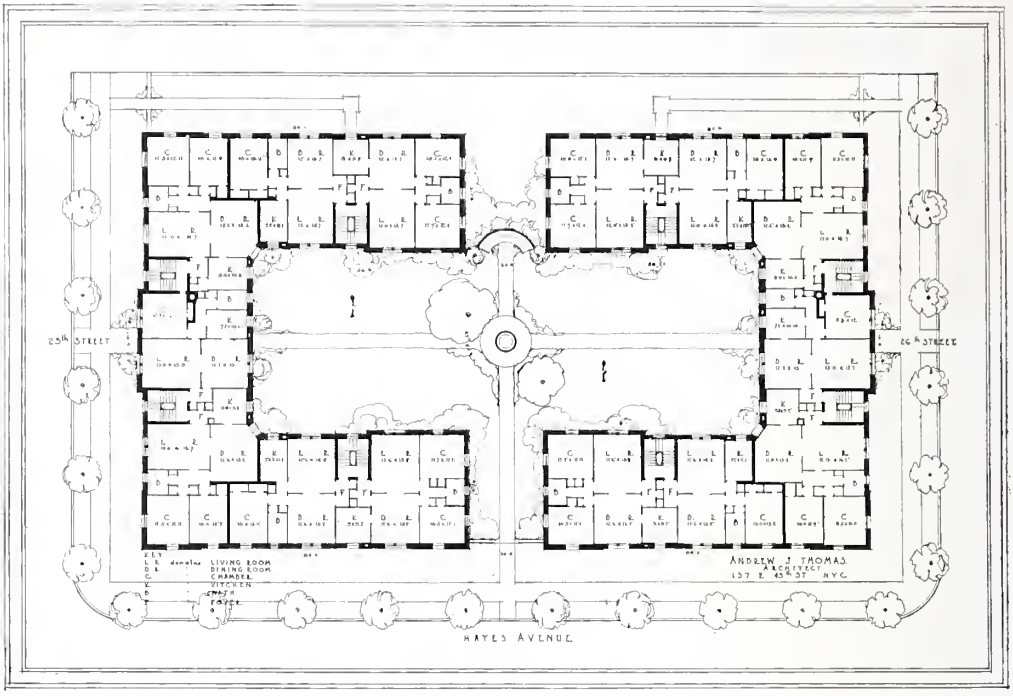


FIG. 148—FLOOR PLANS—TWO GROUPED APARTMENT BUILDINGS FOR THE HAYES AVENUE APARTMENTS, INC., JACKSON HEIGHTS, NEW YORK CITY.
Andrew J. Thomas, Architect.

earlier endeavored to achieve. It is planned for a lot of substantially 10,000 square feet in area. The portion of the lot occupied by the building is 6,200 square feet, or 62% of its area. In that respect it is a more successful solution than an earlier plan of similar type developed during the earlier years of the war, which covered 7,900 feet. In cubical contents the comparison would be between the 370,000 cubic feet of the present plan and the 472,000 cubic feet of the earlier plan, a difference that would obviously effect a considerable saving in the construction cost—while the new building contains even a few more rooms —and those of larger size and better proportions—than in the earlier scheme.

It should also be noted that these rooms are far better arranged than in the older plan. The large "Garden Court" also—in itself about the width of the New York city street between building lines—does much to add to the liveableness of the apartments, its pleasant, quiet outlook being an undoubted asset to the tenants. This courtyard makes it further possible to remove from the street frontages all unsightly fire-escapes, and locate them within the courtyard, where they may be better taken care of and are less obtrusive. All the apartments have good ventilation and variety of outlook, and much more sun as well as air is given all the tenants. The apartments all have two exposures, and many three.

The arrangement of the apartments themselves has also been carefully considered—the separation of the chambers from the living rooms, the conveniently arranged kitchen—while the fact that the staircases each serve comparatively few apartments, is an important factor toward securing privacy for the occupants.

The savings in area and cubical contents incorporated into this plan mean much from an investment point of view. All the space saved was undoubtedly waste space. Any further increase in



FIG. 149—TWO GROUPED APARTMENT BUILDINGS FOR THE HAYES AVENUE APARTMENTS, INC., JACKSON HEIGHTS, NEW YORK CITY.
Andrew J. Thomas, Architect.

the floor area of the building is, in the opinion of Mr. Thomas, rather a liability than an asset. While it is true that the New York Tenement House Law permits of 70% of the area of the inside city lot being covered with the building, on a lot of the approximate total area of the one here considered it is neither economical nor desirable to cover more than the proportion that has actually been utilized. Such larger building would merely further crowd and congest the lot, interfere with the light and air of all the occupants, and add once more to the plan much of the waste space now utilized. This building of larger area would cost much more to build and maintain, and the depreciation would be greater; and while it would be possible to obtain a few more rooms to the floor, the average rental per room for the entire building would have to be lowered to a point where the *total* rental value would drop below that of the slightly smaller building here shown—because of the actually less desirable and livable apartments that would result.

But it is not alone to be argued that the actual rental of the more crowded building would total less, on an investment of considerably more, but it must further be borne in mind that this more congested type of building would sooner become obsolete, and the loss of revenue from vacancies would total a considerable sum once the housing situation reached a less restricted stage than is the case at present. Then the only way to retain the building's occupants would be by lowering the rents, thus once again reducing the return upon the investment involved. All these factors are, it is believed, bettered, if the apartments are originally arranged upon a more ample and comfortable scheme, and the saving in initial cost thus capitalized for the best benefit of all those concerned in the transaction.

Let us now return to the consideration of the duplication of these apartment building units. In Fig. 144 is shown a diagram of several possible developments of a plot of land about one hundred feet deep by two hundred feet front. In C will be found two apartment buildings of the kind now being discussed, located side by side upon this land with a fairly spacious area between the two structures, extending entirely through from the street to the garden space at the rear. Seven families would be accommodated upon each floor of each building, or fourteen in all on each story. In A and B are shown two other possible arrangements of buildings on the same area, containing fifteen families to the floor level. The additional apartment is only obtained by filling in between the two structures, thus enclosing the central court at either one end or the other.

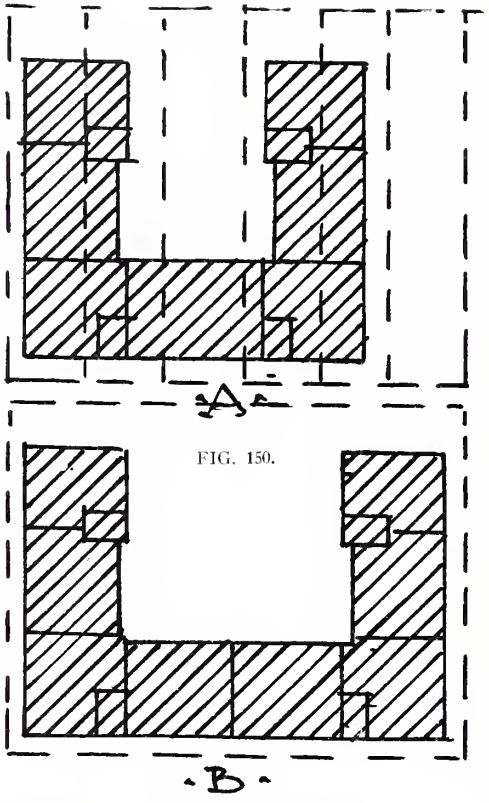


FIG. 150.

It is true that the additional courtyards thus secured are no more "shut in" than is the case with either of the courtyards shown at C, in the plan now largely advocated in New York; but it is also true that the two apartments on either side of this connecting section have not quite as much frontage and outlook as in the other suites in the plan. This defect could, however, be somewhat corrected by slight variations easily made in the next adjoining apartment plans.

In both the plans shown at A and at B, the additional apartment is secured without *any* increase in the number of staircases, or hallways, over the two buildings shown at C. In other words the extra apartment would be secured at a very slight additional expense.

As between A and B, the principal practical difference in arrangement would be that in A it would be possible to place all the staircases on the street faces of the building — particularly if the lot was one at the end of a block, with streets bounding the property at both ends — whereas in B it would be necessary to cut up the lowermost story somewhat with hallways going through to the inner face of the building in order to connect with the entrances to the staircases located upon the courtyards. The scheme for either one of these plans, A or B, is capable of indefinite extension in either direction, to include any possible or desirable number of apartments.

In C or D we have the type plan developed by Mr. Thomas, shown in two different relations to other buildings of the same plan. In C is shown the duplication of the plan used at Jackson Heights to the number of six units on one street and an equal number on the street behind, thus completing the filling in of a block, with a large garden down the center of the block between the backs of the apartments—an arrangement that gives ample space for light, air and privacy around all the structures. In that particular example, however, the court in the rear of the building has, upon the basement floor, been filled in with some garage units that detract from the use of

the garden because of the unavoidable roadway back of each line of apartments and the space necessarily given up to it, and also introduced an unfortunate element of noise and dirt into the group. In D appears an arrangement placing the units back to back instead of side by side, on the end of a block, thus giving both buildings and their tenants the additional value of the length obtained in the two courtyards, placed end to end. The detailed development of this idea, as it was worked out by Mr. Thomas, is shown in Figs. 148 and 149.

In the rapidly approaching country-wide zoning of our cities we will no longer allow each community to grow either uncontrolled, or at the sweet will of the real estate speculator who lays out his "Division" to suit himself. Sections will be laid out for apartment development and restricted to that use alone. Therefore we should already be interested in the related grouping of apartments, although as yet little has been done along this line. Nevertheless, if we accept the separate building as a "unit apartment building," and realize that, under some conditions, it possesses advantages over the continuous structure, we must at once accept the fact that there exists a whole new series of problems in the proper relation of the units to themselves, and to some possible central Garden or Park.

Mr. Thomas has already built one such group, following the line of most obvious relationship.* It is arranged around the outlines of a block, the interior of which is filled with a "Common Garden" treatment down between the backs of the buildings. But larger and less conventional groupings than this are already in the air. In another study, with apartment building units arranged over nine city blocks, it was estimated that, with property values on a basis of $3,000 the lot of twenty-five by one hundred feet, it would be possible to leave one *block* free of buildings, for recreation purposes, at a cost of only 30 cents per year additional rental per four-room apartment: At this price who would not undertake to make the reservation of one block in nine for a playground, when we realize how the intensive building up of property to apartment uses increases the demand of tenants for space for their own exercise and the play of their children.

It has been said that the tenement House Law permits of building over 70 per cent. of the area of a lot on interior lots and 90 per cent. on corner property. In this connection it is Mr. Thomas' claim that the property cannot economically and successfully be built up as close as that. He regards the maximum for suburban locations to be 45 to 50 per cent.; on city interior lots with 100 feet frontage by about the same depth, 55 to 57 per cent., and on corner lots about 62 to 65 per cent. On lots of smaller area the proportion can be somewhat increased, depending upon the dimensions and street frontages of the property, possibly even up to 70 per cent., but the results obtained are more than likely to prove in the end undesirable to both tenants and owner.

He also believes that the four-room apartment should be the minimum standard desirable for family occupancy, and that no bedroom intended for use by two people should be smaller than nine by eleven feet. This is, of course, a better standard than many people in this country now enjoy. Probably it can never be applied to low cost tenement housing, but in the latter connection this matter of standards and room sizes will be taken up and considered from a somewhat different and more novel angle in a following article.

We have so far considered these plans only from the point of view that obtains in New York, where their possible relation to a lot of a particular size and proportion, and on land of very high cost, are the major considerations. How much of the idea may be utilized in smaller, less congested cities; or even in suburban communities?

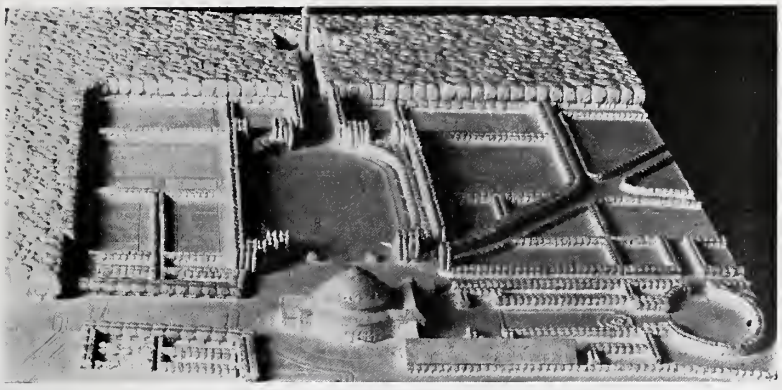
Such variations as appear in A and B in Fig. 144, are especially adapted for less valuable land, and to suburban loca-

* This subject is discussed by Mr. John Taylor Boyd, Jr., in two articles, entitled "Garden Apartments in Cities," in The Architectural Record for July and August, 1920.

tions. The only consideration would be that the courtyards would then widen out, and the apartments at the corner angles would be favored by being given probably one or two more rooms, to appeal to tenants who want a little more space and are willing to pay for these more favorable situations. Under such relaxed limitations these plans would develop to meet suburban conditions most advantageously. The buildings themselves would not have to crowd so close to the lot lines, and planting would be utilized upon the street as well as on the courtyard side of the buildings.

The exterior treatment would also be considerably affected. The roofs would appear in evidence, and slate or tile be allowed to add their picturesque values to the architectural composition. In true suburban surroundings the longer, lower ranges of connected buildings will better meet and please the eye, while the processes of elimination by which we determined the type of plan in the opening portions of this article apply as well to the suburban as to the city problem—adding only the two or three considerations modifying plan or exterior that have been mentioned in this and the preceding paragraph.

Now how about the composition of the type plan itself, with the utilization of which as a base unit we have now been principally concerned? Let us next refer to Fig. 150, where we can view in direct contrast the plan as developed for the New York typical corner, using five twenty-foot or four twenty-five feet wide lots, 100 feet deep (A-Fig. 150) and the same plan with the court widened by the inclusion of another twenty-foot lot to the property to be developed. (B-Fig. 150.) Little change has here been suggested in the idea or arrangement of the ideal type plan shown in Fig. 145. The additional twenty feet of width is all added to the court, increasing it by about 50 per cent. This increase makes it possible to obtain another apartment on each floor along the front of the building and between the two staircases shown in the original plan, without adding to the number of staircases in the structure. This larger building still contains only the same number of staircases (four) as did the other plan, Fig. 145, but eight families on each floor are now served instead of seven. If the arguments advanced for the more spaciously arranged rather than the more crowded plan in New York City are accepted, it would appear equally logical to advocate this slightly enlarged type group as being even more economical in its investment aspect, and as being 50% more attractive to the occupants because of the greater size of the "Garden Court" itself. It would undoubtedly well repay the extra land cost because more certainly ensuring the continued value of the investment, even in New York City. In smaller American cities, or in suburbs, with more land around the exterior of the structure, and the advantages of the planting it would allow, this adaptation would offer even more advantageous possibilities than the plan we have here previously considered as most desirable for the purpose.



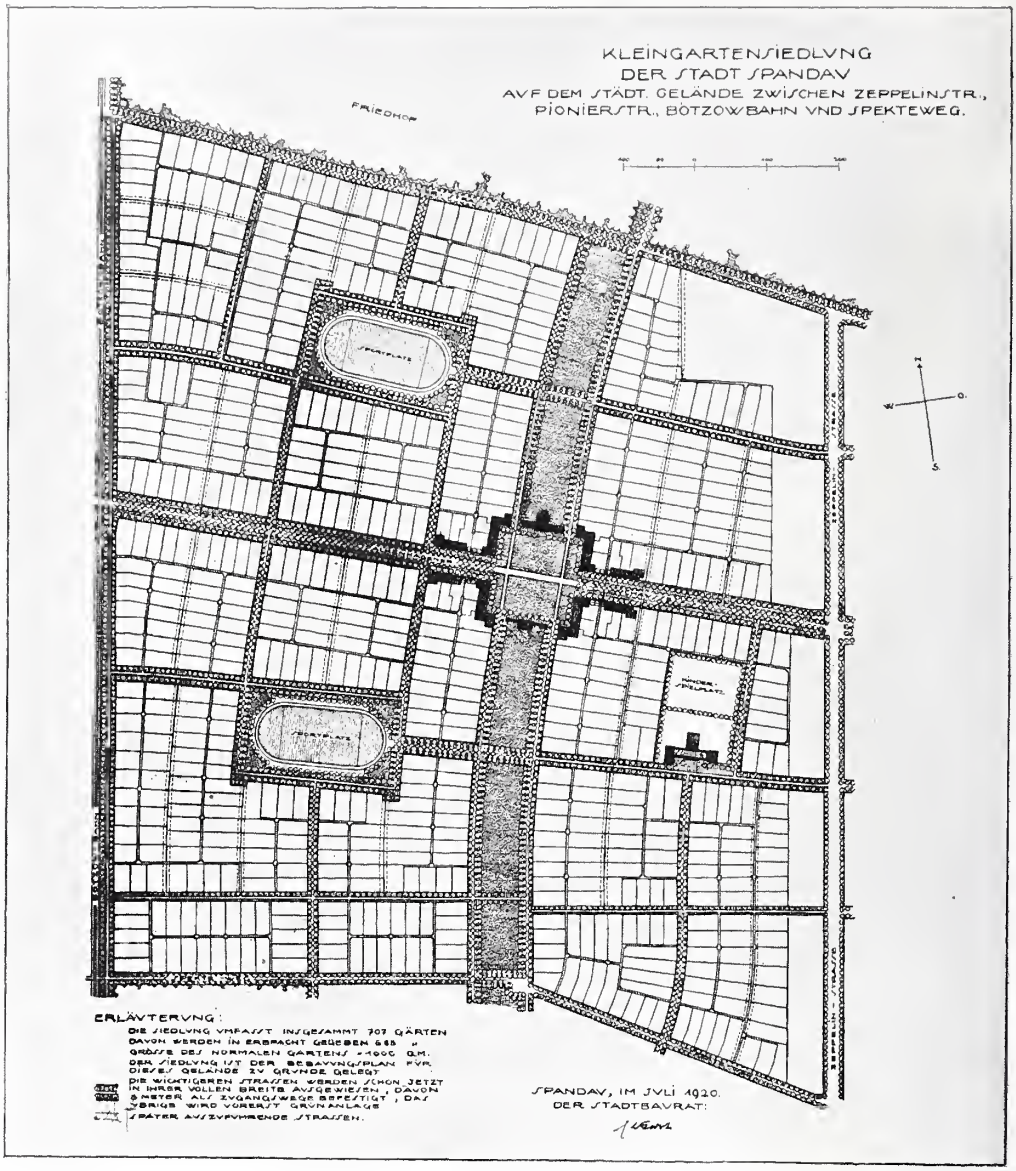
The Stadium at Hanover, designed by Paul Wolf, architect, has a seating capacity of fifteen thousand. At the entrance is the City Hall and beyond, extending into the city park, is an open garden dedicated to the memory of the soldier dead.

RECENT PARK PLANNING IN GERMAN CITIES

By
Dr Hugo Koch

BEFORE the outbreak of the war, the governmental and community authorities in Germany, and the German people themselves, were awakening to the importance of public grounds. This was due largely to published information of park accomplishment in other countries. A number of German cities already possessed great treasure in the old and splendid park creations of the princes, which they now began to see in a civic aspect. A new ideal of landscape art comprehended gardens as a part of dwellings for high and low alike, and directed attention to the development of lawn areas. The value of open spaces for recreation in general became more and more realized as illustrations were seen of the recreational parks and playgrounds in American cities. All conditions were thus favorable to the development of recreational parks in German cities, in addition to the *Spielplatz, Kindergarten Volkgarten and Promenadeplatz,* such as they already enjoyed. The most striking expression of the new order was the development of the large city park in Hamburg with all the facilities for outdoor recreation which were to be found in the city parks of the United States.

But the war put an end to development so promisingly begun, and the establishment of new city parks soon ceased. At the beginning of the war a few plans were undertaken as work of necessity for the relief of the unemployed. Soon, however, there were no longer any unemployed, for the army and the essential industries demanded all who were able to work. The increasing scarcity of provisions led to the establishment of small gardens, in promoting which the government and communities joined. Every little space of ground not otherwise occupied was utilized in raising vegetables and other articles of food. But even in this it was attempted, wherever possible, to combine play and sport places with the colonies of small gardens. The value of little houses with little gardens became more and more widely recog-

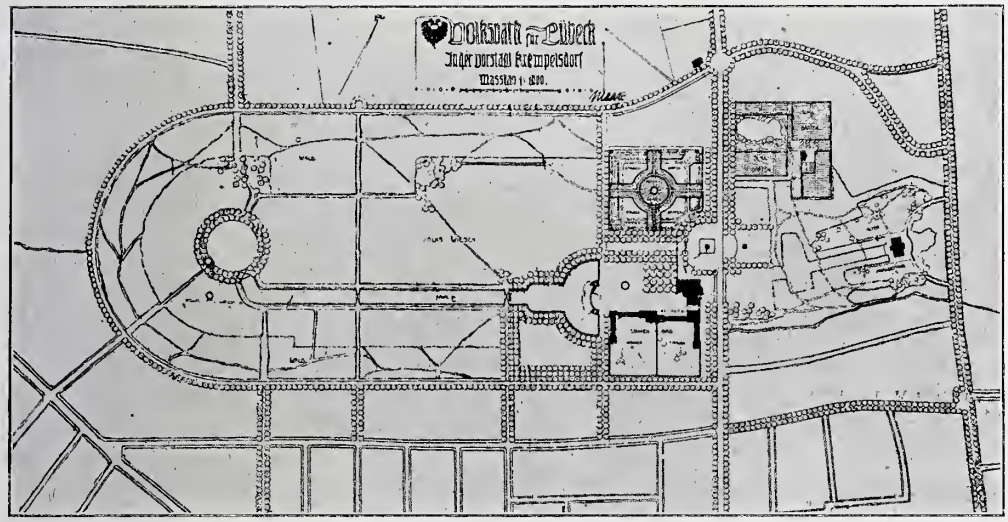


Plan for Colony near the City of Spandau. This colony embraces over seven hundred homes, of which six hundred and thirty-eight are in hereditary lease, each with garden plot of about one thousand square yards. Ample spaces for play and athletics are incorporated in the layout.

nized. The movement "to every resident a house with his own garden" already begun before the war, found constantly more supporters. The new home ideal of "house and garden" was everywhere fostered.

The outcome of the war put an end to idealistic plans. Although the raising of hardy young people may be accomplished in large cities only by promotion of play and sports, yet the constantly increasing struggle of the people for existence has prevented the realization of far-sighted projects. During the days of the revolution it became necessary to protect from the attacks of the rabble the costly garden treasures developed by the German princes; it is hoped that in due time the gardeners formerly employed in the royal gardens may be recalled to prevent neglect or injury to these historic creations, and thus preserve them forever for the enjoyment of the people.

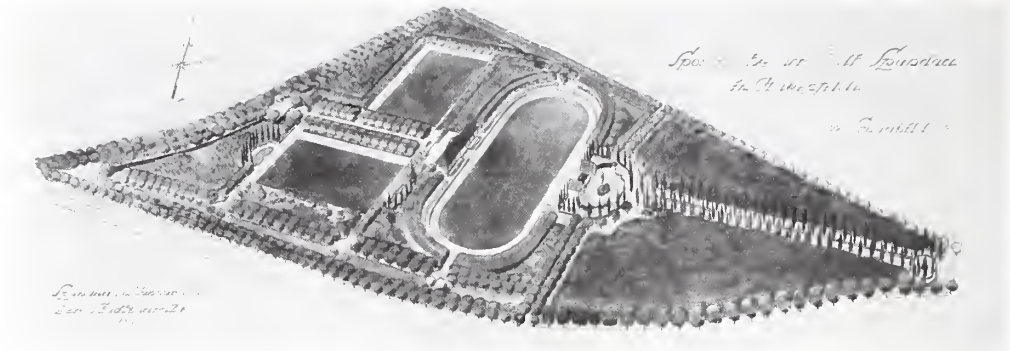
The financial stress in cities that are now very much in debt will probably prevent for some time park and landscape development of all kinds, unless the conditions of non-employment shall compel communities to provide work for the laboring classes. It is clear, however, that the demands for parks should receive first attention, whenever possible, for they serve as places of recreation for the mass of the people. Hamburg immediately after the close of the war resumed its park program by laying out a large sport field in connection with its monumental water tower. Lübeck developed a people's park. Hanover built a stadium according to the design of Municipal Architect Wolf. Spandau laid out a playground according to the plans of City Architect Elkhart. Many other cities have planned or commenced work on such recreational grounds.



The new City Park at Lubeck adjoins the old park and connects with a large school, which has been laid out with playgrounds and children's gardens. The design includes a community house, bath house, rose garden, boating canal, picnic groves and other recreational features.

The development of city parks during the next few years will provide especially play and athletic facilities. It is gratifying to observe a constantly growing recognition of the value of play for the people in general. This movement is fostered by

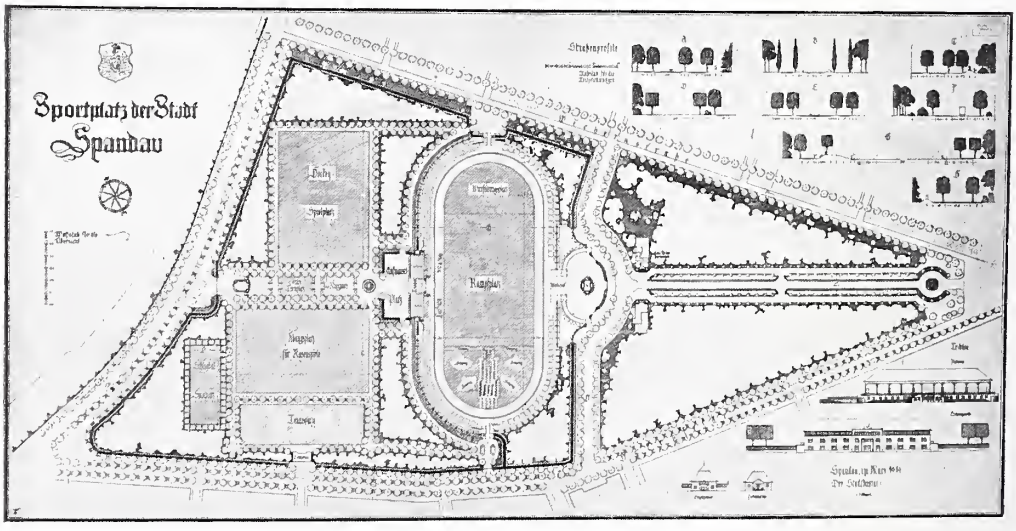
*The interchange of ambassadors between this country and Germany makes opportune a review of the park situation in German cities. La Vie Urbaine, the leading French magazine devoted to the subject of city planning, publishes in the February issue an article of thirty pages on "La Crise de Logement en Allemagne". Dr. Hugo Koch, a city planner of Leipsic, visited the United States in 1913 and upon his return published the book "Gartenkunst in Stadtebau," in which appeared many illustrations of American parks. From the accompanying article it is evident that American ideas of comprehensive park planning are exerting an influence in the development of German cities, and conversely we may reap a benefit by the infusion from other countries of park ideals applicable to American conditions—GEORGE BURNAP.



PERSPECTIVE OF ATHLETIC GROUNDS FOR THE CITY OF SPANDAU.
Designed by City Architect Elkhart.

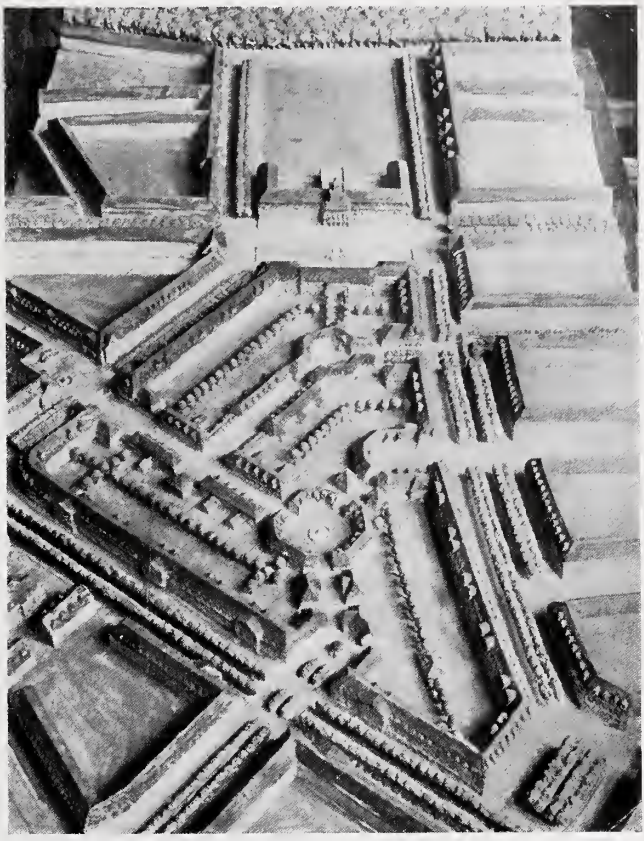
the Commission of the State Board of Corporal Exercise, and endorsed by clear-sighted educators. The plan of combining the school with the playground is finding more and more adherents. These ideals have been realized in recent plans for city structures in Hanover, in the communities of Gross-Berlin, and especially in the large building plan for Cologne by Fritz Schumacher.

The principal features of the building plan for Cologne (in the close competition for which Schumacher was successful) form an admirable object for study, although the majority of even the larger cities of Germany, for lack of means, can not execute plans of such magnitude. The plan of extension of the Cologne Rayon district was in many respects an unusual one. It was not, as in many similar cases, a proposal to develop a suburban circle around the city proper, but rather to introduce such a circle within a large town. Through the far-sightedness of the first mayor, Dr. Adenauer, a legal verdict was obtained which enabled the community to take over private property for the purpose of devoting fifty per cent. of such property to public playgrounds. With the help of these laws



PLANS FOR ATHLETIC GROUNDS FOR THE CITY OF SPANDAU.
Designed by City Architect Elkhart.

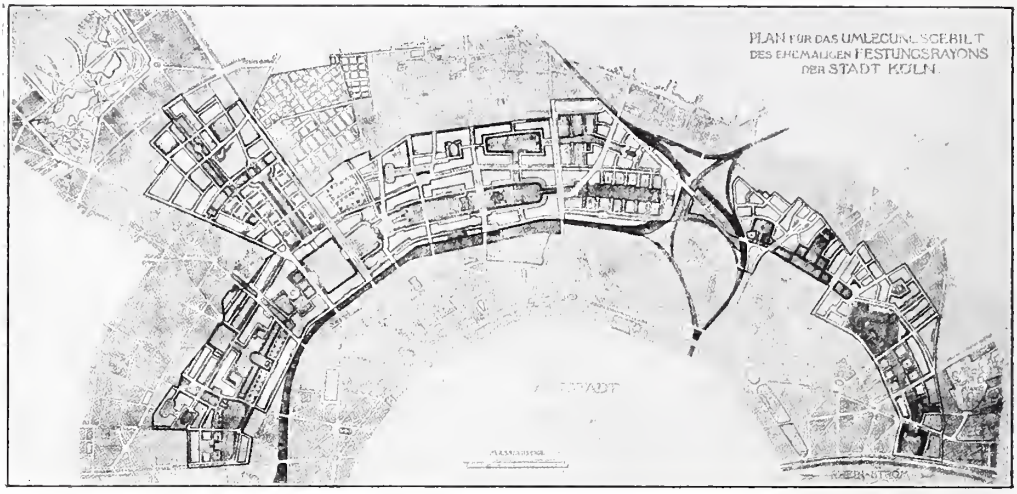
authorizing extensive changes, the creator of the Cologne plans was enabled to solve in a large measure the problem of co-ordinating parks. Instead of small, disconnected open spaces, a continuous encircling parkway has been outlined, which, as a large channel of traffic for foot passengers reaches from the Rhine to the corner of the Luxemburgerstrasse and, dividing or forking in the middle, embraces on one side the cemetery of Melaten, which is to be converted into a park, and on the other forms green plots, connecting with the existing city park. Thus an extended pleasure ground about seven kilometers in length has been created such as few German cities may boast of. In this ring of verdure municipal buildings, schools and other public buildings have been located in such a manner as to bring about an effect of unity and beauty. Agreeable views are obtained throughout the large pleasure ground by means of characteristic motifs placed between each two radial streets crossing the grounds. A large fountain, the basin of which is two hundred and fifty meters in circumference, serves as a main decoration of the grounds. The green plots are to be developed as neighborhood parks; these are so placed as not to interfere with the passage of pedestrians and are adorned with flower-beds, secluded seats for the weary, and sheltered places for mothers and children. The main grounds for organized games and sports are wisely placed on the other side of the Kanalstrasse. Two schools are immediately connected with them, thus making it possible to give the youth physical and mental training conjointly. In this undertaking an important factor will be the practical and at the same time artistic way of keeping up the playgrounds.



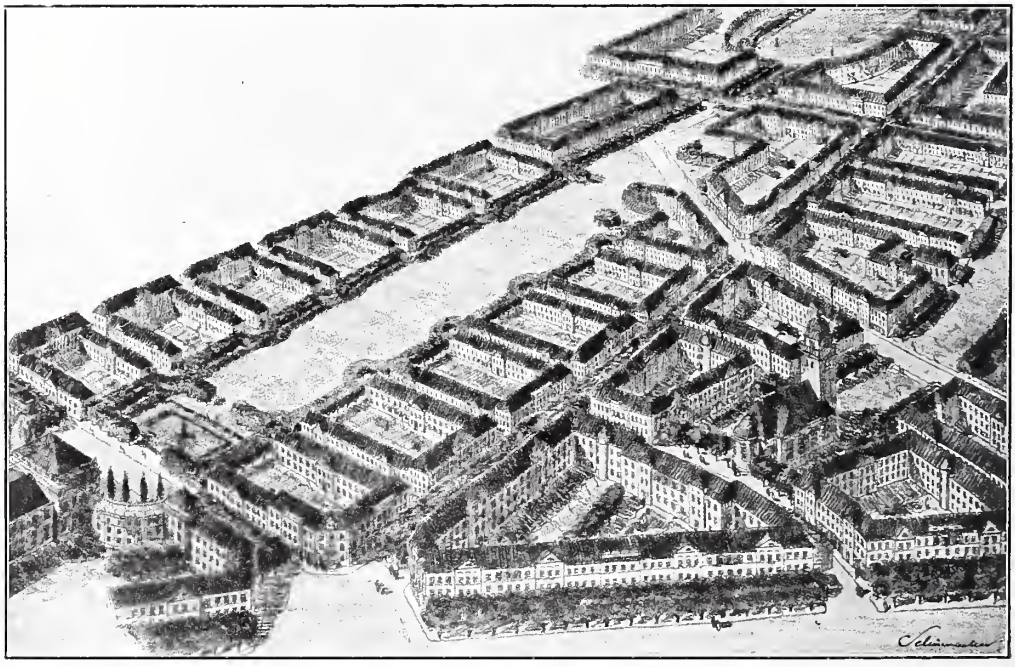
A large playground attached to a prominent school building is a feature of the settlement of small homes for Hanover-Kleefield. Paul Wolf, Architect.

Hardly another German city of today will attempt such large plans as Cologne. Under present conditions members of the creative professions might despair were it not for the fact that smaller tasks are at hand for their endeavors. Every city, every small community, is eager to erect some monument to the memory of its dead. More and more the people realize that ostentatious or showy monuments are entirely out of place and that simple tablets, designed by the hand of an artist and placed in proper surroundings, may far better express their sentiments. Parks in themselves are seen as a highly commendable form of soldier memorials.

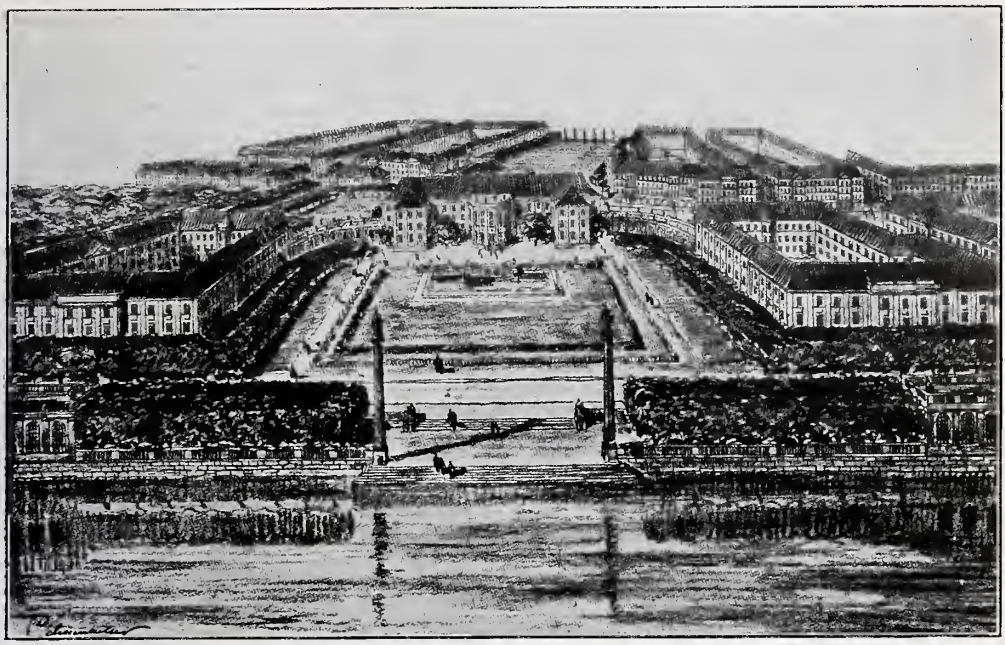
Great economy in all things—the first duty of German citizens today—must be



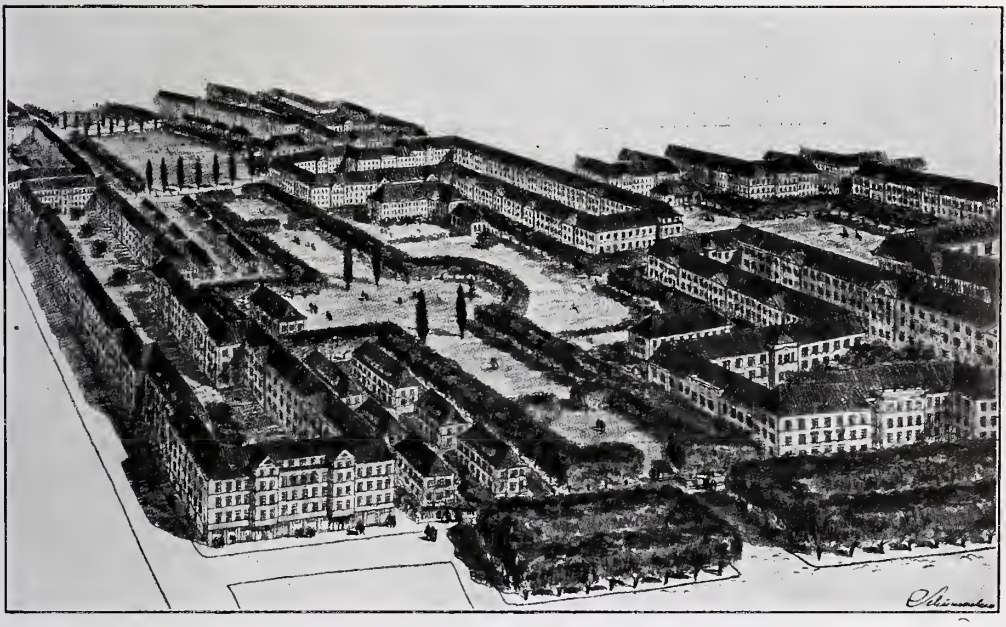
GROUND PLAN FOR BUILDINGS WITHIN THE COLOGNE CITY LIMITS.
By Dr. Fritz Schumacher, Hamburg, Architect.



BIRD'S EYE PERSPECTIVE OF PLAN FOR THE COLOGNE RAYON DISTRICT.
By Dr. Fritz Schumacher, Hamburg, Architect.

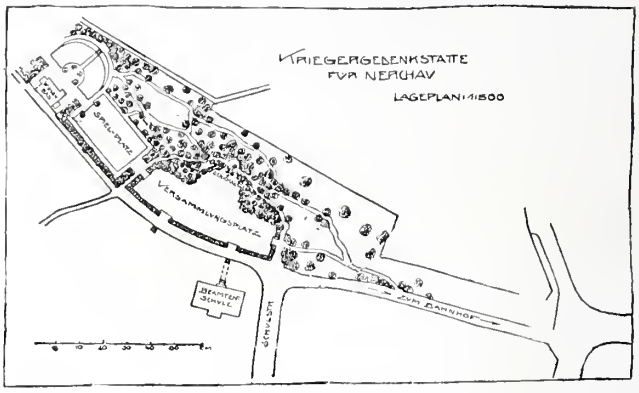


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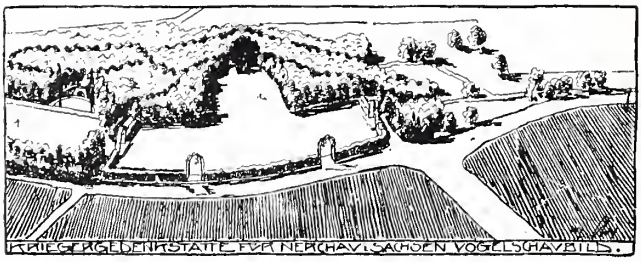


BIRD'S EYE PERSPECTIVE OF PLAN FOR THE COLOGNE RAYON DISTRICT.
By Dr. Fritz Schumacher, Hamburg, Architect.

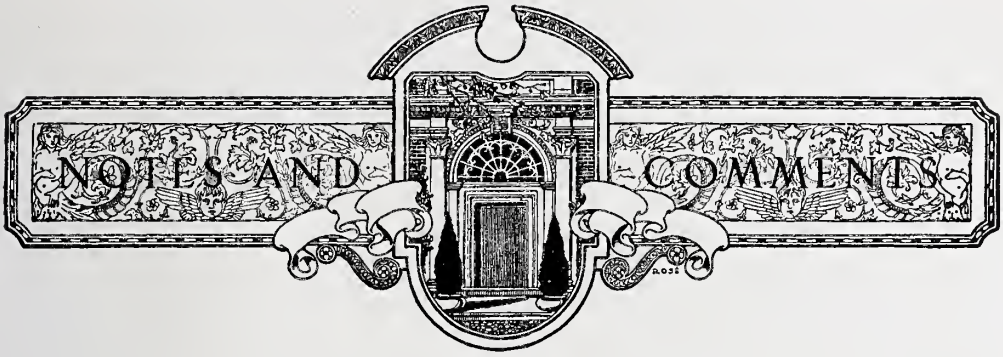
observed in a sterner measure by the official landscape architect than by the private one, but this enforced economy may bring about a resurrection of the truest artistic spirit. The necessary simplicity of German life, with all its restrictions, may create a simpler but at the same time a purer art, an art which considers the minutest detail. Indeed, it is hoped that much good will come of this enforced limitation in our work; a healthier and withal loftier artistic concept, so that if some day greater means are at our disposal we may be in a position, by virtue of past experiences, to bring about a period of highest excellence in the park planning of German cities.



PLAN FOR A MEMORIAL PARK.
Dr. Hugo Koch, Architect and Engineer.



PLAN FOR A MEMORIAL PARK.
Dr. Hugo Koch, Architect and Engineer.



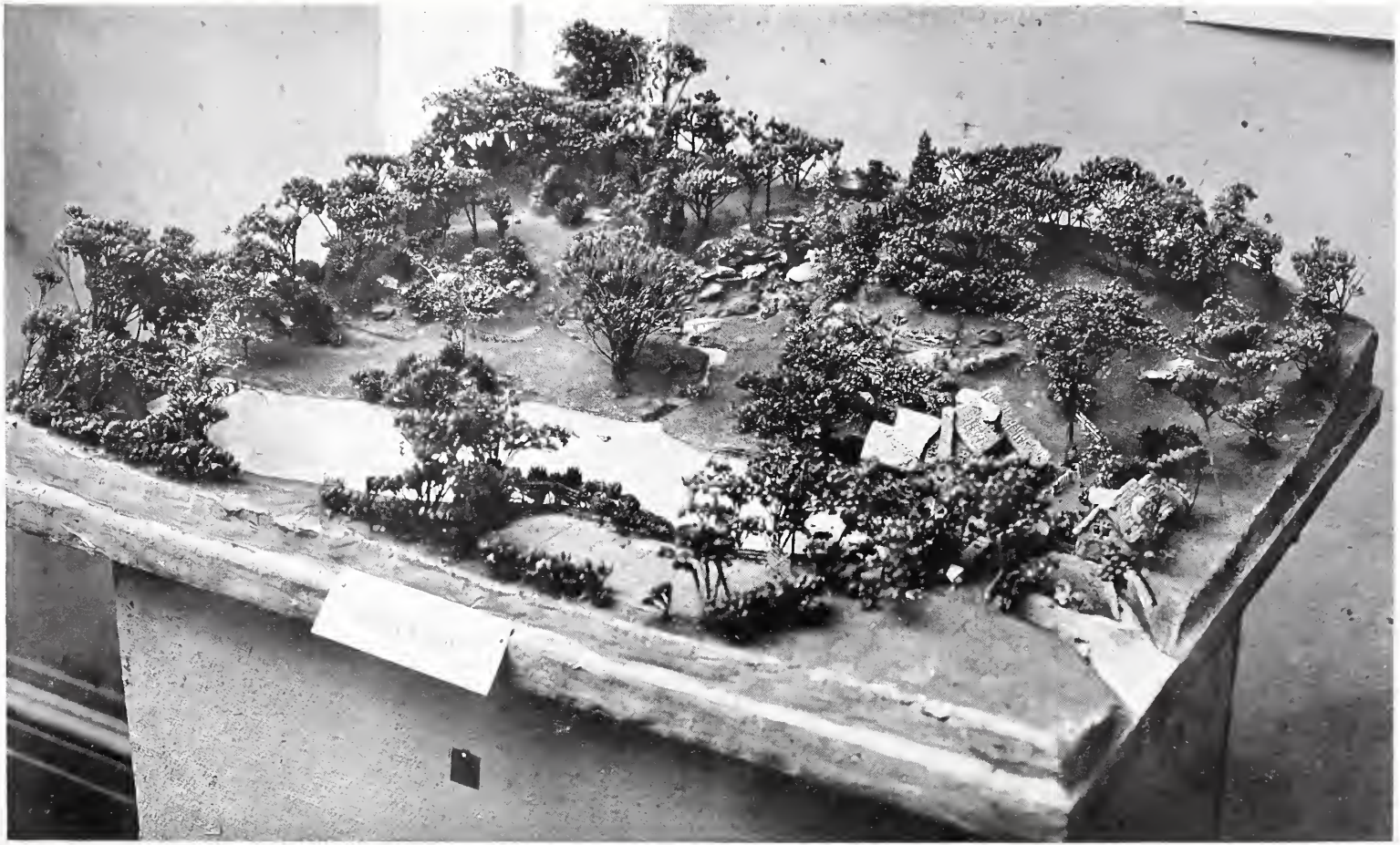
Current Competitions in Garden Planning

During the past few months there has been a trio of garden design competitions, one of which has been a quintet in itself. Will this result in a concert of garden building during the coming summer?

Gardens designed hypothetically without a local habitation and a name give play to fancy and free fashioning, with none of the sodden handicaps of practical application. They represent the difference between student ideals and client ideas. Even practicing artists who make submissions in such competitions do so with a whimsical pencil, consciously forgetful of the grinding limitations inevitably accompanying such problems in actual experience. The occasion is one for agreeable laying off of responsibility, for doffing of business jacket in favor of carefree smock. Who has not secretly envied Mr. Goodhue his Villa Fosca and does not thrill to an orthodox opportunity of dream possessions likewise? The architects and landscape architects who fabricated gardens for these various competitions surely returned to the actual problems of the office with a freer vision. Unfortunately too few experienced artists availed themselves of the invitation. The heads of the office could have led in the merrymaking. But the majority of the solutions show hard and painstaking labor on the part of junior draftsmen unaware of the opportunity offered for a good time. It was an occasion for shadow design and too many of the participants got really serious about it.

A most casual reading of the various programs should have revealed that these were but practice matches, a series of quintain contests. Lances were not set against business rivals, for few of the conditions governing properly conducted competitions were to be observed. In the competition conducted by the Women's National Farm and Garden Association, the designers names were to be signed to drawings instead of the customary *nom de plume* and no guerdon was at stake worthy the prowess of professionals. The game was the fourteenth century one of tilting at a cross piece set on a post, with a board at one end and a sandbag at the other, the feat being to strike the board and to get away so quickly as to avoid being struck behind by the sandbag. Success in these competitions was, therefore, for the one who could strike most lightly and thus create least after-swing. In the Philadelphia competition, for example, he who regarded the fact that the foreground was necessarily a "kitchen yard" and conscientiously included this in his sketch could not hope to compete with one jauntily omitting such *avant-scene* and annexing rather a liberal *entourage* of neighbors' territory. If the lance were pointed at such inconsistency as preserving the house arrangement unchanged "to avoid other than moderate cost" while engaging upon expensive "walled-garden" construction, one could not hit the board at all. And the winning design seemed to have been successful by escaping the sandbag rather than by striking the mark. The design given second place starts *le axe majeur* from a cellar door, and borrows a luxuriant setting; the third prize winning design includes two pools and a water rill in bland disregard of the edict against "elaborate water effect." Only by fanning the mark did either one of these contestants escape a smack by the sandbag!

Some entered the lists in office panoply; some knights seemingly assumed the disguise of their serving men. From examination of the names and addresses of the winners in the various contests it is impossible to determine whether draftsmen are now domiciled at the office like old-time apprentices or whether masters are trying out their hand surreptitiously. To which ones shall we give credit for premiated designs? Shall the head of a professional



COMPETITION IN LANDSCAPE AND GARDEN DESIGN, CONDUCTED BY THE WOMEN'S NATIONAL FARM AND GARDEN ASSOCIATION, PROBLEM I. MODELS SUBMITTED BY STUDENTS OF THE DEPARTMENT OF LANDSCAPE DESIGN, UNIVERSITY OF MICHIGAN. DESIGN BY TEALDI. MODEL BY SHOEMAKER.

office share the prize if he shirks the responsibility of open entry?

The several competitions attracted wide interest. The Society of Little Gardens in Philadelphia received three hundred applications for

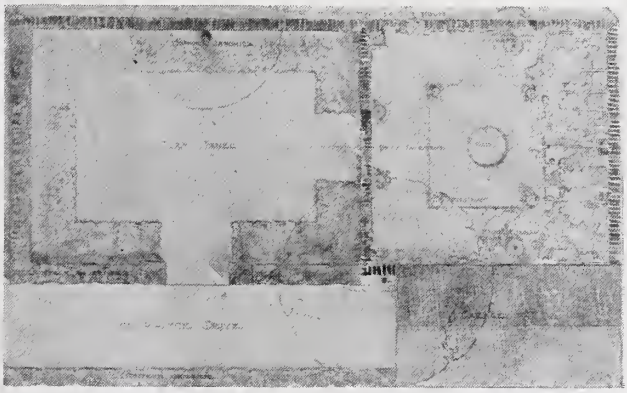


Competition for the Design of Garden Treatment of the Typical Suburban Back Yard, conducted by the Society of Little Gardens, Philadelphia. First Prize Design by Prentiss French, care of Olmstead Bros., Brookline, Mass.

the Back Yard program, from twenty-three states besides England and Canada; the Women's National Farm and Garden Association had entrants from both coasts; the Own Your Home competition attracted a wide range of entrants. The quintet of the National Farm and Garden Association were written by artists selected from different sections of the country; this, curiously enough, resulted in a parallelism of awards: The problem written by a landscape architect of New York City was won by competitors from that state; that written by a mid-Western group of landscape architects was won by a Cleveland man; the program prepared in New England, by New Englanders. And, stranger yet, the program for a city back yard garden design, written by Ellen Shipman, attracted only women entrants. Unfortunately, the New England-made program, the design for a suburban or country-town lot, was so loosely written as to permit the two winning designs to orient the house with side elevation toward the street, which free interpretation of conditions, in fairness to the other contestants, could well have rendered *hors de combat* the two Cambridge competitors with synonymous ideas. The design submitted on this problem by Harry Grall Newton, of Berkeley, California, was an able contribution. The similarity between the designs exhibited by the students of the Lawthorpe School of Landscape Architecture at Groton, Massachusetts, suggested a master's hand; possibly a single submission would have brought equal distinction to the school.

The great unsolved mystery is how architects of as great wisdom as those acting as professional advisers to the Society of Little Gardens could have prepared a program so prejudicial to a "house and garden" composition. Even for a design of moderate expenditure the link harmonious between the garden space and the living rooms of the house should not be precluded by a fixed location of kitchen annex. The problem of back yard garden design in the Women's National Farm and Garden Associations competition granted sufficient freedom in allotment of the essentially service area to permit a harmonious relationship between the dwelling and the garden. The garden competition of the Own Your Home Exposition allowed the greatest leeway in the co-ordinating of the house and garden design; with the result that the winning design, by Elizabeth Leonard Strang, is a criterion in close harmonizing of terraces, gardens and lawns with the porches and living rooms of the house. It is not unlikely that rigidity of program may have been the reason for such an unfavorable showing by the same artist on one of the other problems. A delightful, informal arrangement proposed in a miniature model submitted by two students of the Landscape Department of the University of Michigan failed to qualify under the same program.

An attempt to design a back yard garden after a house is already built, with no privilege of adjustment in the house arrangement, rarely

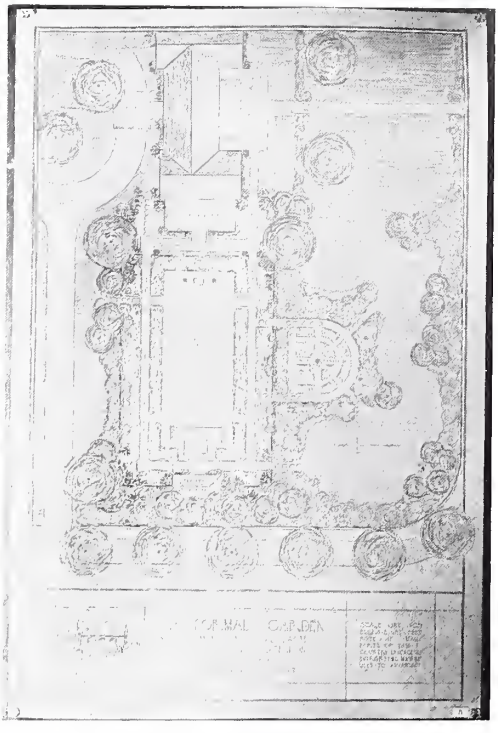


Competition for the Design of Garden Treatment of the Typical Suburban Back Yard, conducted by the Society of Little Gardens, Philadelphia. First Prize Design by Prentiss French, care of Olmstead Bros., Brookline, Mass.



Competition in Landscape and Garden Design, conducted by the Women's National Farm and Garden Association, Problem I. First Prize Design by Norman F. Newton, Sherwood Holt and Walter G. Jameson. Office of Bryant Fleming, Wyoming, New York.

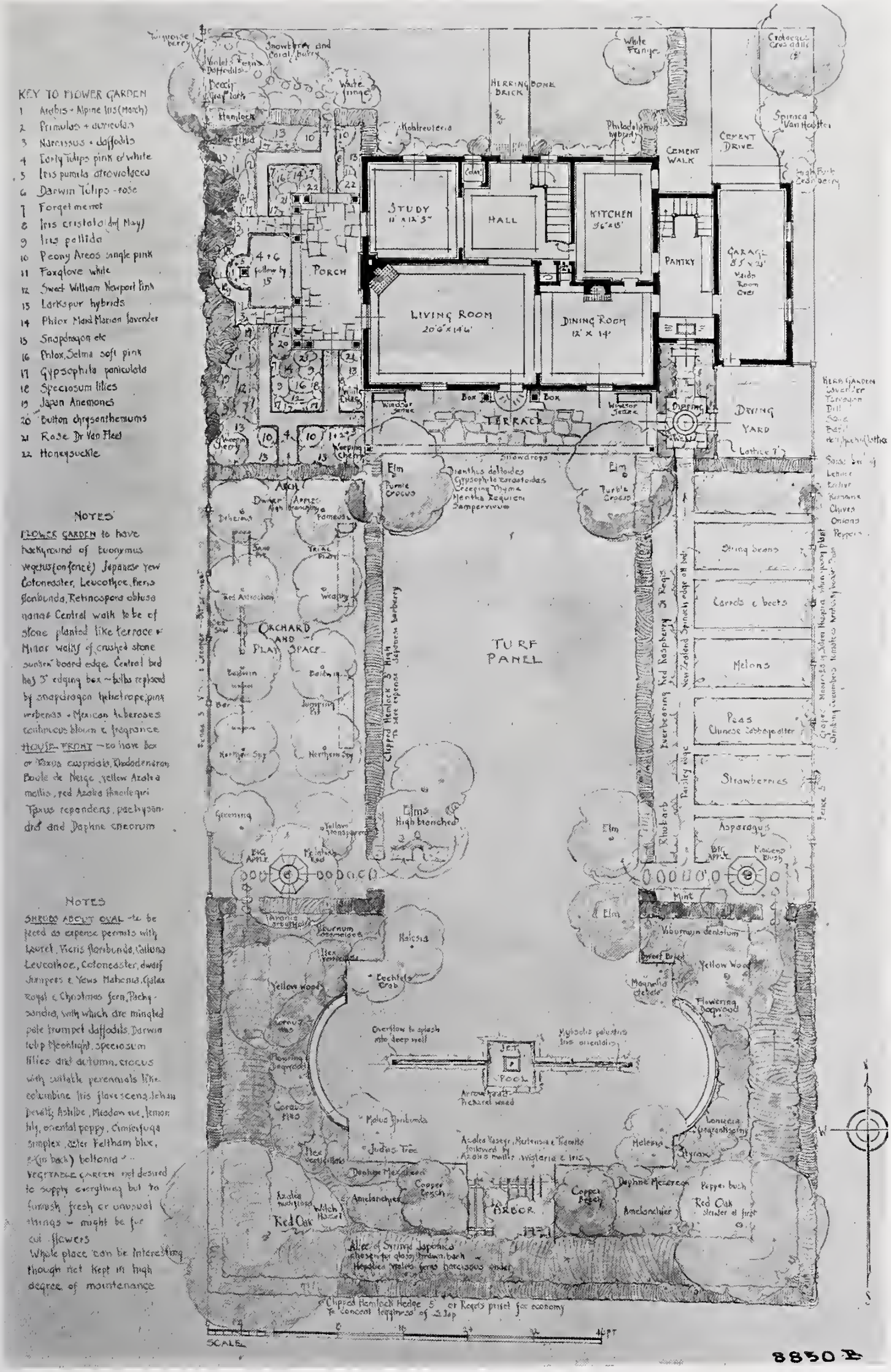
produces very harmonious results. It is too nearly a problem of supplying the missing member to a bob-tailed cat. At best, it is hard to match up a house with a garden. The one should occur with the other in the natural course of building. A formal garden designed independently and "attached" to a house has provoked more than once the thought "what a monstrous tail our cat has." It is hard to believe that many of the gardens presented in this competition would accomplish what Ernest Flagg so fervently invokes in his recent book, "Small Houses"—"that kind of garden which the European loves, where one may sit in privacy under his own vine and fig tree." Such garden is a part of daily living. "The European of limited means places his house on the line of the road where it politely presents its ceremonious front to the passerby; but the other front—*le côté intime*—is screened from public view, for the garden is sacred to family life." Every contestant in these competitions should have been privileged to read Ernest Flagg's chapter on "Gardens", inevitably he would have turned to the following chapters on "Surroundings," "Topography," "Open Air Shelters," "Dependencies," and finally would have read the book from cover to cover to enjoy in full the refreshing atmosphere permeating both text and drawings. But had this occurred, there would have been no submissions in the competitions, for houses and gardens of the sort portrayed by Mr. Flagg are inseparable, and, conversely, they may not be created independently of each other.



Competition in Formal Garden Design, conducted by the Women's National Farm and Garden Association, Problem II. Second Prize Design (no First Prize awarded) by A. F. Ingalls, Cleveland, Ohio.

Few architectural draftsmen entered the competitions, although any number would have devised charming gardens as a part of a small house competition. Their reluctance was hardly due to the auspices under which the competitions were held, but conceivably was because of a sense of something lacking in the program—a condition brought about by architectural leaders, in separating the tail from the cat.

There is a weak spot in competitive garden design that the architects can strengthen. Summer competitions in actual gardens, conducted by local improvement societies, become posey growing contests. Competitions of the sort above recounted produce an assortment of cat tails. Will not the architects enter upon a competition of garden designing and garden building not as a spring revel but as a summer-long carnival? Will not the architects regard gardens as a regular accompaniment of small homes, even the very modest dwellings that can afford little more space than the "back yard"? Architectural thought in arranging the rear of the house to anticipate a garden, architectural consideration of the house "as a screen to protect the garden from the inquisitive gaze of the passerby" and architectural effort at the time of building "to enclose the other three sides of the plot sufficiently to secure the degree of privacy to which every family is properly entitled" will effect a condition that in comparatively short time will render a back yard or small garden competition an occasion for



Competition in Arrangement of Grounds for a Typical Home Building Site, 75x150 feet, conducted by the Own-Your-Home Exposition at the Chicago Coliseum. First Prize Winning Design by Elizabeth Leonard Strang, Leominster, Mass.



A and B Competition in Arrangement of Grounds for a Typical Home Building Site, 75x150 feet, conducted by the Own-Your-Home Exposition at the Chicago Coliseum. First Prize design by Elizabeth Leonard Strang, Leominster, Mass.

submissions of completed work, for display of photographs of little gardens realized. It will surely be as pleasurable and vastly more profitable for all concerned to stage tournaments in garden making instead of quintain contests in garden planning.

GEORGE BURNAP.

The Boston Architectural Club Exhibition

The current exhibition of the Boston Society of Architects and the Boston Architectural Club, held in the main Exhibition Hall of the Rogers Building of the Massachusetts Institute of Technology, from March 21 to 31, differs from other exhibitions in two or three definite ways. It is first of all, and most obviously, a showing of sketches for work, probably mostly projected and—in some cases—undoubtedly abandoned, representing the comparative dullness in the field of building that has persisted for the past two or three years. This year, it also lacks the coöperation of the Society of Landscape Architects, which for several past years has been associated with the exhibition. It is, finally, more simply arranged and presented—the last being in every way an advantage from the point of view both of the public and the exhibitors—as it has resulted in giving each exhibit sufficient wall space so that it is easy to see and appreciate the material shown, without conflict with adjoining frames.

It is a relief to see architecture exhibited free from the rather overwhelming display of textiles and stuffs in which the architectural part of one or two of the New York shows has recently been almost lost to sight. The exhibits of the decorators contained in the gallery have been well arranged to display both their drawings and the furniture produced by their shops, placed in a few well adjusted groups in the alcoves, or at the ends of the hall, with tables disposed down the length of the room. A "safe and sane" exhibit, therefore, this year, from more than one point of view.

Another supplemental art, stained glass work, is well and restrainedly shown in the two or three window alcoves opposite the entrance. The principal displays are made by Messrs. C. J. Connick and Reynolds, Francis & Rohnstock, and both have made an interesting and instructive exhibit, including details copied from mediaeval windows, as well as new work executed in the same manner. Mr. Connick also shows an unusual domestic window group on the subject of "Treasure Island."

Turning to the walls themselves, the first impression is of a large number of well drawn perspectives—a few even going to the extreme of being *too* well drawn, from the prevalence of work by one or two men who have developed the forms of leafless trees in their foregrounds so anatomically and well that the spectator is carried away by the patience and skill shown in the portrayal of this incidental accessory more than he is by the architecture it has partially screened. This is a temporary mannerism that will probably soon pass—evidently a reaction from the former poorly studied and unnatural foliage in which our architectural studies have been framed for so many years.

Other interesting groups of sketches are by O. R. Freeman, of details by Kilham and



An example of Backyard "Garden Making," accomplished by one architect for his own enjoyment.

Hopkins; by C. M. Baker of some houses and other work of his own design; by R. H. Doane of schools and other domestic buildings; by H. deV. Pratt in water color; by Mr. Connah of a church interior by R. C. Sturgis and William G. Perry, and a large group of renderings (in pencil, water color, and pastel) by Birch Burdette Long, and of work by Benno Janssen of Pittsburgh. In addition, the exhibit shows some charmingly spontaneous water colors of different European scenes by M. Haffner, who has recently come to Harvard, some sketches in colored crayons by Walter Kilham, made in Mexico—other water colors of European scenes by Hubert Ripley, and some crude and "postery" renderings of a "War Memorial" scheme combining the Springfield Municipal group with a repetition of the silhouette of the Custom House Tower, relocated in the center of Harvard Bridge.

Other memorial ideas also appear in this year's show. One is a huge four-square Triumphal Arch, also shown in this same location, but even more lacking in the contrasts of necessary surrounding natural accessories than the other scheme. (The best presentation of the former appears in an attractive water color in Mr. Howard Walker's old manner, to which he has added, however, about five times the area of island and tree background shown in the actual plan itself.) A well presented Memorial Tablet at Belmont, by Little & Russell, and several groups of various related buildings for neighboring communities also appear to fall within this same category.

Three or four designs for churches are presented. Cram & Ferguson's very scholastic English scheme for Princeton Chapel is shown in photographs from several of Mr. E. D. Robb's careful renderings. Allen & Collens are represented by two frames (unfortunately far separated by the hanging committe) of a Congregational Church at Holyoke, that, from the interior views, appears to indulge in all the panoply of a full vested choir. Two other designs, by C. M. Baker and by Hutchins & French, are of brick Colonial churches with a several-storied tower and spire, a type that has of recent years tended to become popularly accepted in New England. Messrs. Coolidge & Shattuck's competitive design for a church in Washington, D. C., while more classic in treatment, also tends toward the same type of silhouette.

Among studies in the Gothic style is a group scheme for a Seminary at Hartford by Allen & Collens; a Woman's Reception Building at Chicago by Shepley, Rutan & Coolidge, and a Study for a Building in the University of Pittsburgh by Benno Janssen. An unusual exhibit is of several groups of sketches and a model showing various studies and schemes for the N. E. Baptist Hospital, on a most irregular site on Parker Hill. These studies appear to be of different designs made by Derby & Robinson, E. S. Read, H. F. Kellogg and Charles Everett, for the same problem, all appearing to have been associated in the later work. The model shows an irregular development of the individual "Cottage" system, extended on diagonals and rectangles in order to properly orient the different units. This is interesting architecturally, but appears to contain elements of difficulty and expense in administration.

A domed Synagogue and "Office Building" at Cleveland is shown in a model and plan by Charles R. Greco, while another model shows a development being made for the use, in 1925, of the "Lexington Pageant," on a portion of J. Willard Hayden's estate, with seating tiers, and a landscape stage, by Stanley White. Two bridges are shown in perspectives, one for Neponset River at Quincy, the other over the Charles River at Cottage Farms, both by Haven & Hoyt.

Little domestic work appears in this exhibit. Some sketches for small houses by E. S. Read; two plaster houses by Ripley & Le Boutillier; rather an unusually successful stone house at Warren, R. I., by Harold B. Willis; some houses and suburban store buildings in the Shawsheen Village development near Andover by Adden & Parker, along with a half-dozen different enlargements of photographs and interiors, practically completes the list. This is a notable shrinkage from the amount of material in this department generally shown in these spring exhibitions.

The landscape work is limited to a few sketches by Bremer W. Pond, and some enlarged views of work by Arthur Shurtleff and Harold Hill Blossom. The former shows the Burdett Garden and a view looking down upon the Fenway entrance at Westland Avenue; the latter, a number of attractive views in the gardens of John Nicholas Brown at Newport, and work on the estates of Donald Murray at Springfield and William Ellery at Brookline.

Strickland, Blodgett & Law show several store interiors, and a garden gateway, and—as has been done on several previous occasions—a special exhibit of the work of Mr. Janssen of Pittsburg was invited. This

includes a number of large municipal buildings, along with several picturesque and extended designs for houses and country clubs.

Some charmingly modeled portrait medallions and heads by Wheeler Williams should also be noted.

One of the most important of the actually executed buildings, shown this year by means of three enlarged photographic views of the exterior, is the new Federal Reserve Bank by R. Clipston Sturgis. This design differs from much recent bank architecture by being worked out in a very domestic type of Renaissance treatment, utilizing a small scale unit instead of adopting a scale commensurate with the dimensions and importance of the building.

While the whole show this year is small, it has undoubtedly served its purpose of interesting the general public and giving them the opportunity to keep in touch with what has been done in local architectural offices during the year that has passed. After all, what better purpose can there be for an architectural exhibition than this? If it so happens that the work done has been small in quantity, it should, perforce, be expected that it might be the better in quality, while the public responsible for the lack of work are reminded of that important fact in this gentle if still unescapable manner.

If there exists any reason at all for the annual Architectural Exhibition (and, personally, we believe there does) that reason should be equally effective, whether the amount of work happens to be large or small. Indeed, in the latter event, perhaps a public showing is even more pressingly important, for it is then the architects should benefit most from the advertisement of their profession thus dignifiedly made. When it redounds, as in this case, to make a clearer, more logical showing possible, the profession and the public must both equally benefit.

The "Columbus Plan" for Obtaining Well-Rounded Coöperation in Designing School Buildings.

Editor of the ARCHITECTURAL RECORD: It occurs to me that the easiest and most direct way to reply to your request for a descriptoin of the so-called "Columbus Plan" of rendering architectural service to the Board of Education in its present extensive building program, would be to set down for you a brief outline of the facts and circumstances which have developed the plan.

Columbus, not unlike all other communities of the country, was forced to hold up the building of school houses to let the less peaceful procession of world conflict pass by. The same tragedy of "no new buildings in six years" was enacted on this stage as on many stages throughout the country. In desperation, at the peak of building costs an attempt was made to erect some seven or eight buildings, using the professional machinery at hand in the School Architect's office which has been so faithful and fairly successful for twenty years in keeping up with natural growth.

The result of this effort naturally fell short of expectations and only three and one-half of the eight proposed buildings materialized. An enlightened electorate, however, in response to a just appeal met the situation by authorizing a bond issue for eight additional grade schools and four new high schools.

Realizing the possibilities of the situation in a manner not always common in our Boards of Education, the local Board sought the advice of the Columbus Chapter of the American Institute of Architects. This advice was sought particularly with reference to the method of procedure for the four high schools.

After a careful, and as it is viewed now, an unusually unselfish study of the situation, with due consideration of the Buffalo, New York, Chicago and St. Louis plans, the Chapter submitted two recommendations.

Of course the Chapter deliberations brought out the familiar problems; first, "shall all home talent be insisted upon because of better knowledge of, and sympathy with, local conditions and in spite of probable lack of perspective and ingrowth of ideas?" or second, "shall all outside talent be sought to bring the best ideas and the advantages of special experience, in spite of probable ignorance of, and possible lack of sympathy with, local conditions?"

The first recommendation was that the Chapter submit to the Board a list of names of architects, any of whom could by reputation be depended upon to give satisfaction to the Board and to the Chapter as well.

The second recommendation, and the one which the Chapter felt to be the stronger of the two, proposed that a supervising or consulting architect be appointed from a list of men, composed of William B. Ittner, D. H. Perkins, J. O. Betelle, R. C. Sturgis and

F. L. Packard, and that the Board, with the advice of this supervisor, retain four architects to render full architectural service for the new school buildings. This proposition, of course, differed from the Buffalo plan in that the Buffalo architects' efforts and interests were syndicated and an expert or school specialist was then called in to establish standards in plan, equipment, etc.

The Columbus Board of Education, however, did not accept this recommendation as proposed, but "countered," as it were, with a scheme which no group of architects would have been bold enough to suggest. This proposition contemplated the direct retaining of four architects, one for each of the new high schools, with the provision that, in addition to rendering professional services, each for his own building, they should act as members of an advisory board or commission together with "such other persons as the Board might designate" to deliberate and advise upon all four buildings.

Thereupon contracts were entered into upon such a basis with William B. Ittner of St. Louis for the Washington Gladden High School, Frank L. Packard of Columbus for Edward Orton High School, Howell & Thomas of Cleveland for Joseph Sullivant High School, and Richards, McCarthy & Bulford of Columbus for Abraham Lincoln High School.

The amounts budgeted for these schools were as follows (totals including equipment and commission):

Washington Gladden	$1,244,250
Edward Orton	997,500
Joseph Sullivant	944,500
Abraham Lincoln	813,750

Just what "other persons" were originally intended to be added to this advisory commission is not now clear, nor was any particular method of procedure designated. It seems to have been assumed that the existing administrative organization known as the School Architect's Office would continue to function separately on all grade school work and rehabilitation included in the program.

Lacking definite constitutionality, the work progressed along rather individualistic lines until the matter of approval of plans came up for consideration. At this point the natural professional, if not human characteristic of aloofness to public criticism of another's work came somewhat into evidence.

This condition may or may not have been due to the individual hope for reciprocity on the part of the architects, but the Board's determination to arrive at the truth and to make or approve decisions which were presented only after concourse of thought and discussion, dissembles the idea that the advisory commission is a "mutual admiration society."

As the work has progressed, therefore, this advisory commission has taken on varying complexions. It has always consisted of a representative of the four commissioned firms, the school architect, the Superintendent of Schools, and the President of the Board, or the Chairman of the Building Committee. Parts of it have functioned separately at times and quite effectively.

Private conferences between representatives of the four firms have been held, which have resulted in the bringing of uniform recommendations as to standards, or of reasonable deviation therefrom. The advisory board has been enlarged from time to time to include the principals of the schools involved, and oftentimes the supervisors of educational departments, and other school people particularly fitted to be of assistance in special instances.

And so the "Columbus Plan" may now be considered to be a sort of "peace conference" with its main body or commissions and its sub-committees or sections, all working to the common end of arriving at the truth, determining definitely first, just what is the educational problem and then conscientiously and thoroughly to solve it.

To this commission, the Superintendent of Schools and his forces have brought an intimate knowledge of educational conditions and needs, and the Board of Education has brought determination to build the best possible buildings, from the standpoint of utility, economy and beauty. Each of the four commissioned firms has brought the share of assistance for which it is peculiarly fitted. Mr. Ittner and his assistants bring the benefit of their twenty or more years of experience as school building experts and as collaborators with groups and individuals of the National Educational Association. Howell & Thomas have contributed to the group their very high appreciation of the value of simplicity, and purity of design. Mr. Packard and Richards, McCarty & Bulford, both local firms of well established reputation through large and varied practice, have given to the commission valuable assistance as to local pride and sympathy which has been quite helpful. The Board's own architectural organization has acted more or less

as a clearing house and at times as professional advisor.

This is hardly the place to present the plans and elevations of the four new schools. But that the "Columbus Plan" is capable of producing results may be evidenced, for instance by the fact that Mr. Ittner's first two attempts to solve his problem by the presentation of one of his typical so-called Elizabethan creations were somewhat boldly turned back by the Board and the Commission. This, of course, was due largely to the fact that the new Washington Gladden School is to be the first and most important unit of Columbus' new Civic Center. Be it to Mr. Ittner's credit, however, that he has produced, with the insistence and assistance of the advisory commission, his first school in the classic style, a building of which he now admits himself proud.

Similar evidence of the effectiveness of the plan may be found in the fact that the Joseph Sullivant School, by Howell & Thomas, an interesting architectural creation of Greek persuasion, will be as practical, as complete and as effective educationally, as any school of its size in the country, even though it is the first large school commission ever executed by this firm.

Edward Orton School, by Mr. Packard, and Abraham Lincoln School, by Richards, McCarty & Bulford, do not lose the individuality of expression which every good architect cherishes for his own work, but have assimilated the good which has come from association and coöperation with independent firms of equal standing.

The workings of the Commission may well be explained by relating a little incident which occurred at a joint meeting of the Board and the Commission on December 16, 1921, when the first line drawings of the Washington Gladden School were presented for approval. Public expression of opinion was solicited from all architects present which elicited a few points of rather severe criticism. Mr. Ittner, the last to speak, addressed the Chairman of the Building Committee somewhat on this wise "You, sir, as a lawyer, would hardly relish the calling in of three lawyers, not of your own choice, to tell you how to handle a case in court, nor would it be considered quite the orthodox procedure in medicine. Incongruous as this present proceeding may seem, I believe, sir, that your Board is getting away with it."

It is my notion that the "Columbus Plan" as fostered by the present non-political and somewhat unusual Board, is producing a group of high schools which will be architecturally and practically as good as any in the country. A discussion of some of the interesting developments in planning is a story in itself.

HOWARD DWIGHT SMITH.

An Appreciative Correction

Mr. John Taylor Boyd, Jr., in his March article in THE ARCHITECTURAL RECORD on the 1922 Architectural League Exhibition, referred to the Model of the Convalescent Home at Cortlandt, N. Y., as "slightly more formal than the Oakland Country Club, but very interesting and of perfect grouping." V. R. B. Higgins, of the firm of Delano and Aldrich and Charles H. Higgins, architects for the Valeria Home, writes: "We note with pleasure, on page 284 of the March issue, Mr. Boyd's comment on the Model of the 'Convalescent Home' at the Architectural League Exhibition. This is the Valeria Home, by Delano and Aldrich and Charles H. Higgins, architects (please note correction), and is now under construction in the Township of Cortlandt, Westchester County, New York."

Christ Church Parish House illustrated on pages 315 and 316 of the April number and attributed to Delano and Aldrich, should have been attributed to Delano and Aldrich, and Philip L. Goodwin, Associated Architects.

SECOND CONFERENCE ON STATE PARKS.

A movement no longer in its infancy but growing with the prodigious rapidity of adolescence is the establishment of State Parks. A number of states have already purchased and improved areas of scenic beauty or historic interest, notably Iowa, Indiana, Illinois, Michigan, Wisconsin, Pennsylvania, Connecticut and New York; and many others are preparing to follow suit. The first National Conference on State Parks, held last year at Des Moines, Iowa, was well attended. The second National Conference is called by the Chairman, the Honorable John Barton Payne, to assemble on May 22-25, 1922, at Bear Mountain Inn, Palisades Interstate Park, the thirty-six thousand acre playground of New York and New Jersey.

Besides a two-day program of interesting and varied sessions on the business of State Parks an unusual inspection trip is in prospect for those who attend the conference. A journey through the Palisades Interstate Park, a visit to the Military Academy at West Point, a tour along the new state highway, the Bronx River Parkway, and through the New York Zoological Park will afford a unique panoramic view of state, national and city owned areas, made accessible and improved by man's skill in engineering, reclamation, park building and architecture. It is a conference to which any professional man can well afford to devote the two or three days necessary.

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JUNE 1922



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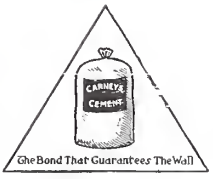
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THE TEMPLE OF ZEUS, OLYMPIA.

ARCHITECTVRAL POLYCHROMY

BY LEON V. SOLON

PART VI

Polychrome Treatment of Architectural Sculpture

THE subjection of Greek aesthetic initiative to arbitrary ruling, is not the aim of this brief and elementary treatise; it attempts merely to formulate general principles which may assure safe procedure in the practice of architectural polychromy. In choosing examples that demonstrate the application of theories formulated, Greek architecture exclusively has been drawn upon; for the reason previously proffered, that it alone furnishes solutions to the major problems. The Greeks were the only race that apparently systematically controlled the vagaries of color activity to architectonic requirements. Far from wishing to discipline the Greeks, an inadequate attempt is made to recognize their mastery in architectural polychromy, in that spirit in which their preëminence is universally conceded in architecture and sculpture. They have left corroborative evidence proving that in this aesthetic activity they were craftsmen of the highest order. Their intuitive and precise appraisal of relative values in all factors of effect, both physical and aesthetic, enabled them to assure results of artistic quality even with media of the most erratic nature.

With the introduction of color in an architectural scheme, conditions arise which must of necessity be anticipated and controlled; these proceed chiefly from properties of an active character which are inherent in color. In attempting to develop decorative methods and procedure, it is essential that certain color phenomena be recognized, and their architectonic reactions recorded. In the contemplation of a work of art, it is not possible to experience the full content of intellectual enjoyment, if certain elementary physical laws are therein disregarded. Consequently, in the study of architectural polychromy, this consideration of color phenomena is imperative if practice is to be developed upon a logical foundation. The importance of recognizing certain natural laws, as a fundamental necessity for the realization of beauty in the arts, is self-apparent; it entails no jeopardy of those artistic prerogatives so fiercely upheld by the superficial critic. Were we to see a sculptured figure in which the laws of gravity or poise had been ignored, our predominant feeling must be one of intense regret, whatever its technical excellence. The same feeling would overwhelm us before a painting in which brilliant artistry declares its independence in defiance of the laws of optics. As the majority of architects in our day do not possess the abnormal aesthetic intuition of the early Greeks, it is necessary to construct little rafts of precept on which to embark, when venturing upon uncharted waters in artistic practice. With a comprehension of color activity in architecture, such as the Greeks obviously possessed, it was as impossible



REARRANGEMENT OF WESTERN PEDIMENT GROUP — TEMPLE OF ZEUS, OLYMPIA.

for them to do irresponsible things with pigment, as it would have been to carve a figure out of plumb. When artistic intuition is rare, rather than general, safety is found in basic principles.

As sculpture will, in all probability, play an important part in the future development of architectural polychromy in this country, a few brief descriptions will not be out of place in concluding this treatise, giving a general idea of the manner in which the color treatment of Greek architectural sculpture conformed to the polychromy of the structure it adorned. Though the number of surviving examples in full polychrome is unfortunately nil, owing to the disintegration of pigments upon standing structures, it is, nevertheless, possible to realize a fairly definite impression from the reconstruction of exhumed fragments of the combined effect of sculpture and architecture adorned with color, during that period in which architectural polychromy was developed to its maximum.

In reviewing the various progressive stages of Greek sculptural expression, with the aim to establish some connection between plastic quality and polychrome treatment, a definite relation is very apparent. In the earlier phases of Greek sculptural expression, the decorative spirit was the main actuating impulse; during that period color is a major factor in effect. With the advent of the maturer phases of art-expression during the fourth century, beauty in the human form came to be visualized from the individualistic angle, rather than from the impersonal or decorative. In the sixth and fifth centuries color was not a medium for simulating an illusion of life; it was used to augment decorative quality. When that quality as an aesthetic objective was superseded in the process of artistic evolution, the necessity for color in its original function naturally decreased.



FIG. A. POLYCHROME FIGURE, AKROPOLIS MUSEUM.

The examples which we reproduce are of the VI and V centuries B. C.; these have a more direct relation to our subject than those of the later period. The colors found upon sculptures of those centuries are identical with those found upon contemporary architecture; the component elements of the palette have already been enumerated. There was no apparent desire to make the coloring of detail correspond to normal tones in the figures of the pediment groups or metopes. The decorative balance and distribution of colors throughout the group was apparently a consideration of far greater importance

than realistic effect. Dark blue is found decorating the hair and beard of figures in prominent positions, though black and brown appear on other details in the composition; the iris of the eye is often painted red. The pediment group was primarily a decorative filling of an architectural space, necessarily subordinate in effect to the treatment of its structural setting; the treatment of its architectural surroundings was regulated by considerations entirely foreign to any that actuated the sculptor. The decorative function of the pediment sculpture was to impart a specific ornamental value, or interest, to an architectural unit of secondary structural importance.

Historical data, and the evidence of examples, point to the coloring and painting of sculpture being done by men who practiced that craft independently of sculpture. It is probable that this work was done by the same men who colored the building, and that the traditions of the craft, which played so important a part in architectural polychromy, influenced to a great extent the sculpture coloring. The same methods of color application and tone development, are found upon the sculptures which were practiced upon architectural detail. Patterns upon draperies or accessories are often slightly countersunk, with surfaces convexly or concavely treated, where tone quality was desirable. The necessity for color separation and color alternation was anticipated in the carving of detail by the sculptor, who, being surrounded by a host of polychromy examples, readily appreciated the importance of such methods to the ultimate effect. There is no evidence of any divergence of view in color technique between the sculptor and the builder during the full polychrome period; architectural quality decided questions of color technique, to which sculpture in its contributory capacity conformed.



Fig. 276. — Tete polychrome d'Athena Parthénos, trouvée à Rome. (Musée de Berlin.)
D'après les *Antike Denkmaeler*, I. 1886, pl. 3.

POLYCHROME HEAD OF ATHENA PARTHENOS.

COLORING OF PEDIMENT SCULPTURES.

On page 95, Part II, Weigand's reconstruction of one of the temples of the Akropolis is reproduced. The colors were brilliant, and apparently in their original intensity when first brought to light; but, in a comparatively short time a rapid disintegration took place through exposure to the atmosphere, the blues changed to greens and the other tones lost much of their brightness. Collignon's description of the Typhon is as follows: "Flesh, reddish tone; globe of the eyes yellow, iris green, with a hole in the centre filled with black; black outlines to the eyebrows and eyelids; hair and beard bright blue at the time of excavation, now green; circle of brown round nipples. The colors decorating the triple tail of the serpent are arranged in stripes, one red between two



DETAILS OF SEA-BIRD DECORATION ON THE CORNICE SOFFIT OF AN AKROPOLIS TEMPLE.



FIG. B. POLYCHROME FIGURE,
AKROPOLIS MUSEUM.



FIG. C. POLYCHROME FIGURE,
AKROPOLIS MUSEUM.



FIG. D. POLYCHROME FIGURE,
AKROPOLIS MUSEUM.

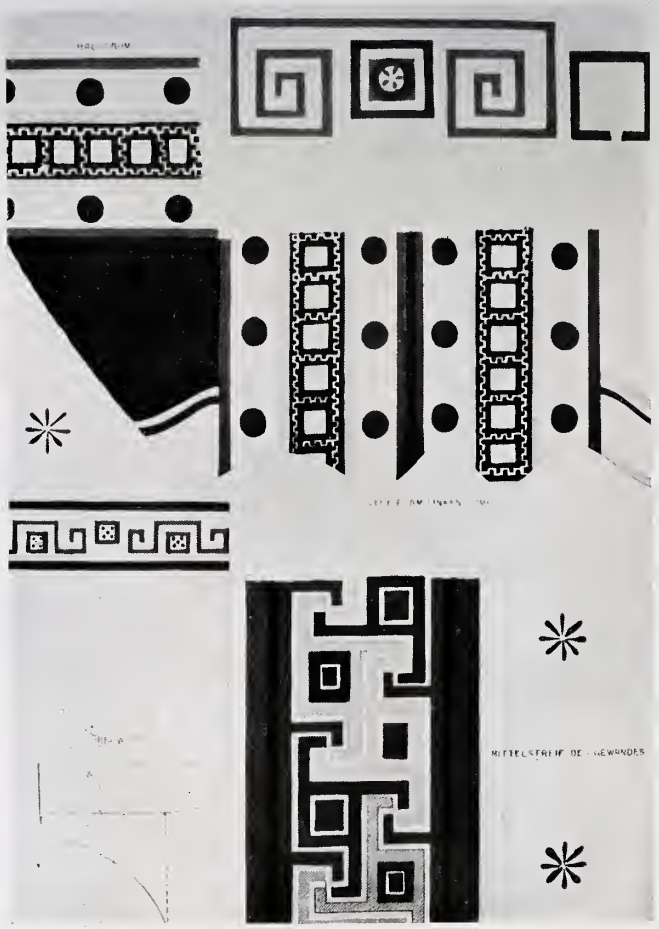


FIG. A. DRAPERY ORNAMENTATION.
Reconstituted by Dr. W. Lerman

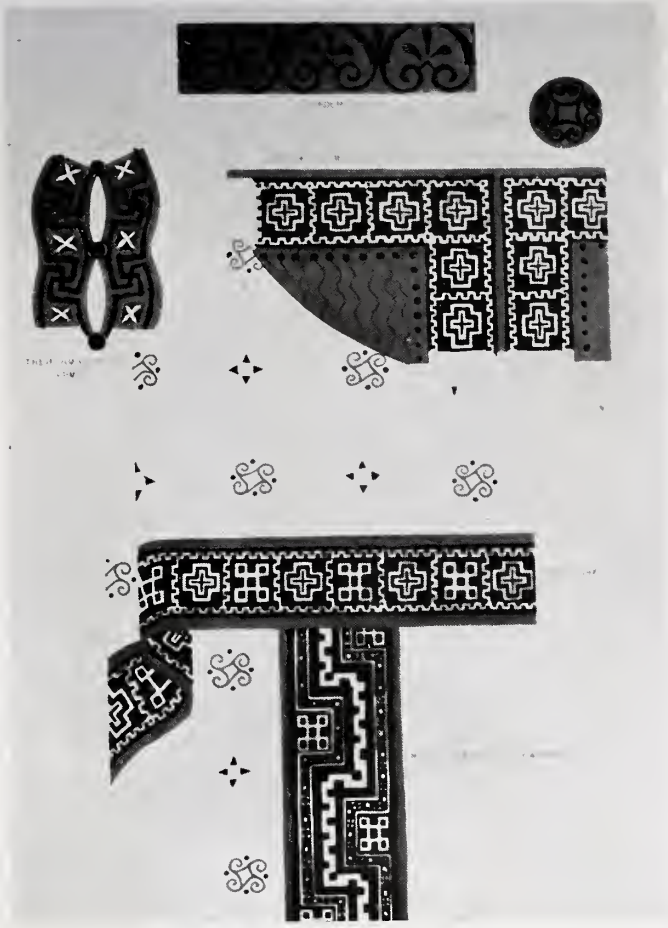


FIG. B. DRAPERY ORNAMENTATION.
Reconstituted by Dr. W. Lerman

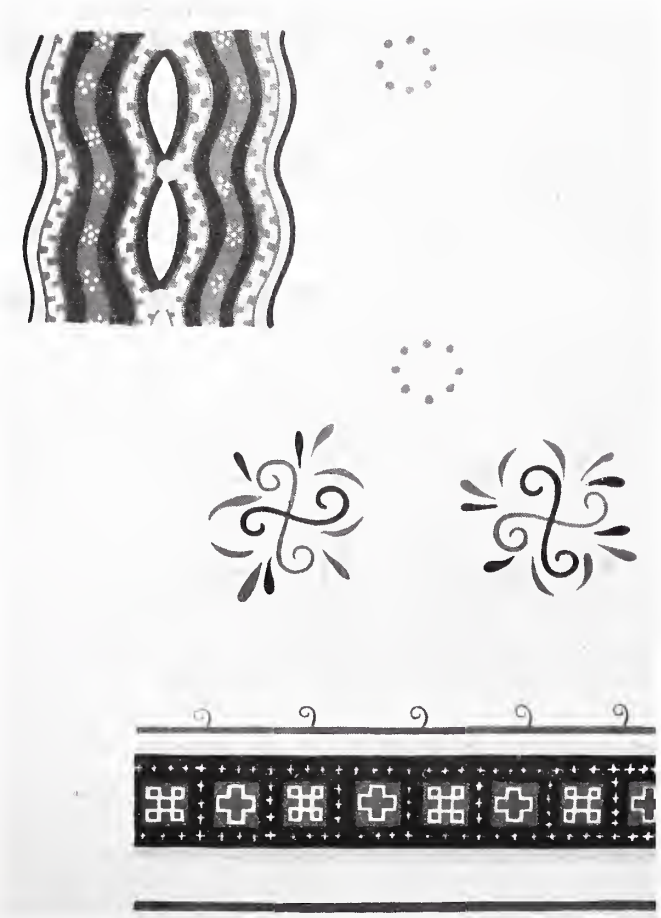


FIG. C. DRAPERY DETAIL.
Reconstituted by Dr. W. Lerman

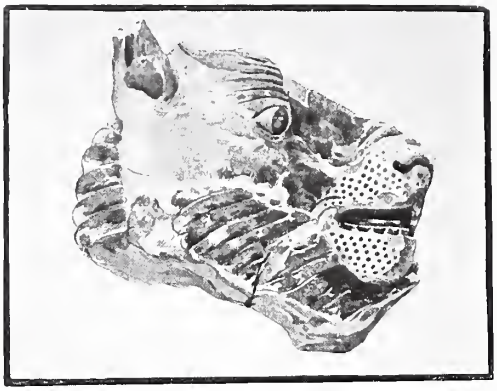


FIG. D. DRAPERY DETAIL.
Reconstituted by Dr. W. Lerman



DETAIL—TYPHON GROUP (WIEGAND).

blue. Red and blue in alternation on the wing feathers of the Typhon, and on the scales of the triton." The detail drawing of the scales illustrated shows the manner in which the carving was treated for coloring. A beautiful motif of birds in flight, on the soffit, flying outwards with fish in their bills, is treated with incised lines without any relief; repeating detail in the wing feathers is colored with red and blue in alternation.



BULL'S HEAD WITH POLYCHROME TREATMENT.

The metope subjects were silhouetted upon a light red or blue background; this practice may have contributed in some measure to that perfection of decorative balance realized in so many examples.

The knowledge that any weakness in composition would necessarily be accentuated, when silhouetted upon a ground of color, must have provided an additional critical angle of considerable value to the sculptor. The active decorative relation of background to subject assumes a greater importance in Greek decorative composition than it apparently does in any other form of racial art expression. The same spirit actuates the composition of the metope subjects upon their colored grounds, which reveals itself in the Greek vase friezes; with its colored ground, the metope composition involved the same aesthetic problems in figure grouping which confronted the Greek vase painter.



POLYCHROME HEAD FROM THE TYPHON PEDIMENT GROUP.

Definite knowledge as to the massing of the colors upon the pediment group must be a matter of conjecture for the present. The variety of figure arrangements which archaeologists evolve with the same figures and fragments, have not conclusively determined the precise nature of the original groupings, even upon temples as thoroughly studied as those of Aegina and Olympia. The rich polychrome moulding which followed the angle of the roof on the upper edges of the pediment, was undoubtedly a valuable connecting link for the various masses of color distributed over the figures; its practical value in this respect can be appreciated by referring to Plate VI.

THE POLYCYHROME ORNAMENTATION OF DRAPERY.

Data of considerable interest have been accumulated by Dr. Wilhelm Lerman upon this subject. He has prosecuted a diligent research, reconstructing

the color treatment of draped figures of the VI and V centuries. Many of these are now gathered together in the Akropolis Museum. Our illustration of drapery decorations are taken from his work, "Altariechische Plastik." The same observation is recorded with regard to the disintegration and fading of colors on exposure, which is referred to in connection with the Typhon group. In Dr. Lerman's color plates green figures prominently. Collignon remarks the absence of green on some of these examples at the time of excavation. The type of ornamentation in many examples is distinctive, insofar as the use of the fret detail is concerned. Judging by the designs, one might assume them to be literal transcriptions of the woven patterns of the period, as they are decidedly suggestive of the loom. The ornamentation is often slightly countersunk to receive the color; this must have been of great assistance in reconstituting the patterns. The colors shown in Dr. Lerman's plates are two blues, red and green only. In some examples the chiton is shown with a solid color, dark blue, red or green.

Additional data of the greatest interest will be found in Rudolph Heberdey's "Altattische Poroskulpture," from which work Plate VI was copied.

CONCLUSION.

The difficulties encountered in writing this elementary treatise were considerably augmented by the total absence of text books or monographs upon architectural polychromy. Archaeologists have accumulated precise descriptions of examples and have rewritten valuable history; but the effect-value of their discoveries in architectural composition belongs naturally to another order of research: the practical utility of the latter type of investigation endows it with an unusual fascination. In treating of the relation between color activity and its decorative function in architecture, colored examples are essential to elucidate hypotheses stated. In a publication of this character the majority of the examples must be presented in black and white; that measure of conviction which is so easily acquired from actual specimens, or from elaborately colored plates, is less promptly recorded with a single color print. Those who doubt the practical value of the Greek methods may easily test this by divergence in practice.

The initial and most serious difficulties which are encountered when experimenting with colors, are disposed of in Greek practice; by adopting their methods we will avoid much tedious and discouraging experimentation. The manner in which they neutralize discord, and develop tone interest in a flat tone, is so simple that it might easily be overlooked by the student who tends to assume that the solution to an intricate problem must necessarily be of an involved nature.

The plan of this treatise has been to recognize active color phenomena, and to draw practical deductions, applying these to architectural polychromy. It is impossible to ignore the important function of systematic deduction as a fundamental in the arts. The greatest examples of the arts show no evidence of that peculiar form of imaginative license which the uninitiated so frequently claim to be the habit of genius; why should we expect it to actuate a purely contributory and subordinate activity, such as architectural polychromy? The direction of all forms of artistic activity is determined by aesthetic laws—a code which we recognize under the popular designation of "Taste." Art expression is primarily feeling; but that feeling is controlled by a specific form of intuition, which in turn is subject to the aesthetic code. An intense admiration, resulting from a lifelong study of Greek art, doubtless generated the author's conviction that the solution of architectural color problems would be found in their artistic annals; it is to be hoped that some readers may share this belief. The late Sir William Osler, in addressing the Oxford Classical Association in 1919, said: "The name of Hellas no longer stands for the name of a race, but as the name for Knowledge; or, as more tersely put by Maine, 'Except the blind forces of Nature, nothing moves in this world that is not Greek in origin.'"



SEABOARD NATIONAL BANK, NEW YORK CITY. ALFRED C. BOSSOM, ARCHITECT.



DIRECTORS' ROOM.

The SEABOARD NATIONAL BANK NEW YORK CITY

ALFRED C. BOSSOM, ARCHITECT

By
Matlack Price

IN this day of change or transition in many long-familiar things, one fixed point in the realm of architecture seems, without argument, to be the bank. Through a great many years its ideal—dignity—has remained unchanged, and the expression of this ideal has found its outward architectural form in the Classic, ranging from Doric severity through Ionic urbanity to the efflorescence of the Corinthian.

It is true that some of the more recent designs for bank buildings, the work of architects of more than average judgment, are establishing the style of Renaissance Italy as fitting guise for the bank. Here, though, is a variation in manner rather than in substance, because the architecture of Renaissance Italy is essentially a sophisticated development of Classic architecture.

Certain adventurous architectural ex-

cursions in bank architecture, as, for instance, Louis Sullivan's People's Savings and Loan Association, at Sidney, Ohio, have not in any way affected the general rendering of the bank. While architectural radicals may (and probably do) select the bank as a perfect example of the reactionary stupidity of the architecture of this country, I should think that not a few timid depositors, especially the rural element, would look with considerable misgiving upon a building purporting to house an honest, decent banking institution, but looking as to its outside, so tremendously like a Temple of the Shriners, or a college secret society building.

Because of the business necessity of a respectable, conventional and conservative appearance, it is probable that the bank will be one of the last types of building to undergo any marked change in architectural treatment. None but the radical-minded will deplore this, because the art and civilization of the ages have evolved no more beautiful example of logical and perfectly organized design than the architectural manner of the ancient Greeks and their heirs of Rome and of Renaissance Italy.



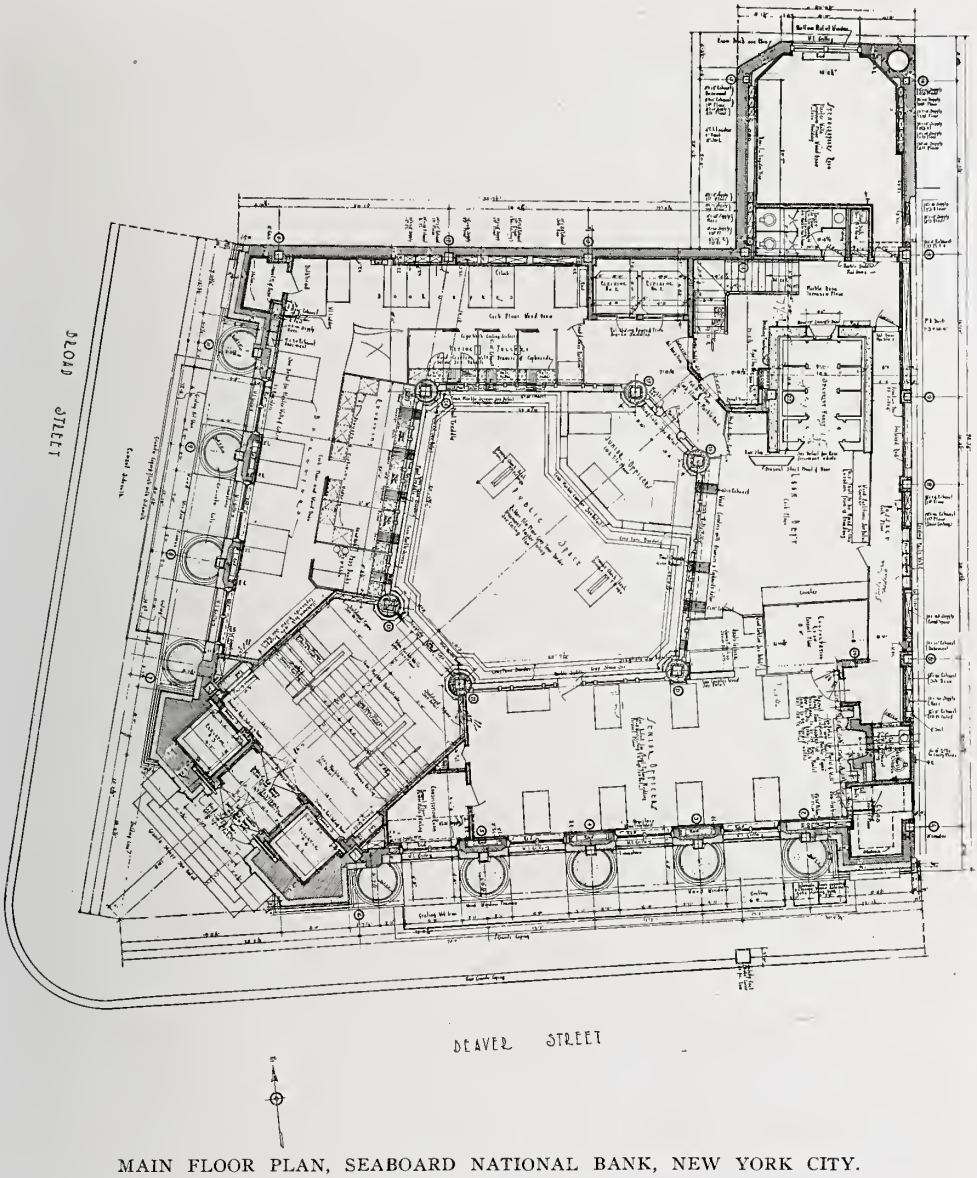
OFFICERS' SPACE, WITH FIREPLACE GROUP BY KARL BITTER, SEABOARD NATIONAL BANK, NEW YORK CITY.
Alfred C. Bossom, Architect.



LOWER PORTION OF BEAVER STREET FAÇADE, SEABOARD NATIONAL BANK, NEW YORK CITY. ALFRED C. BOSSOM, ARCHITECT.



MAIN ENTRANCE DOOR, SEABOARD NATIONAL BANK,
NEW YORK CITY. ALFRED C. BOSSOM, ARCHITECT.

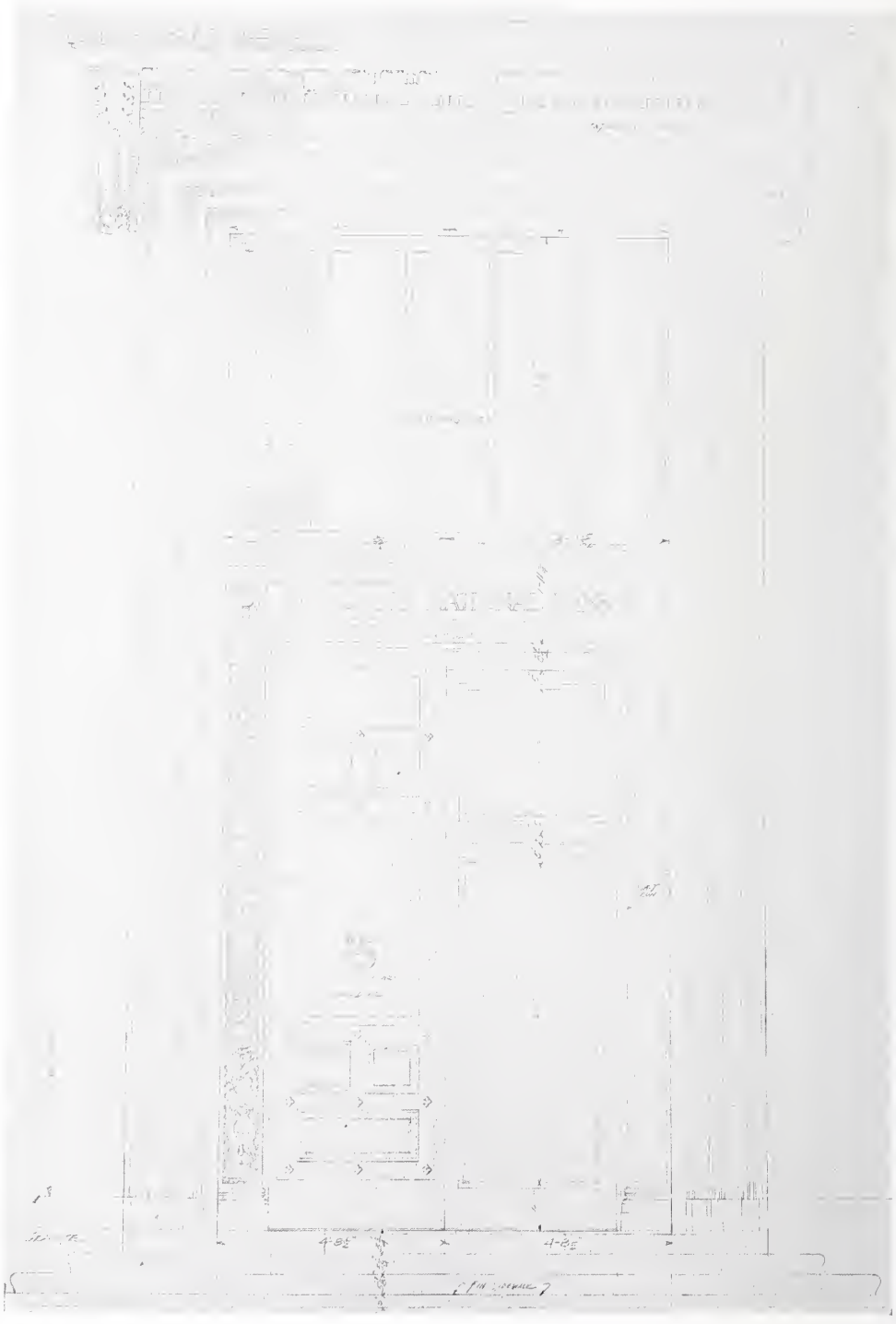


MAIN FLOOR PLAN, SEABOARD NATIONAL BANK, NEW YORK CITY.
Alfred C. Bossom, Architect.

The greatest problem which confronts the architect of today in designing a bank building is the achievement of Classic order and symmetry on an awkwardly shaped or a too-small site.

For the new building for the Seaboard National Bank in New York City, Alfred C. Bossom has demonstrated one of those attributes of the architect seldom, if ever, recognized by the lay public—the attribute of resourcefulness. Certainly the architect of to-day must be far more than merely the designer of gracious architectural forms and general effects. He has, it is true, super-experts to aid him in the many special phases of his more complex problems—but these are but aids: the responsibility, as well as the architectural concept remain with the architect.

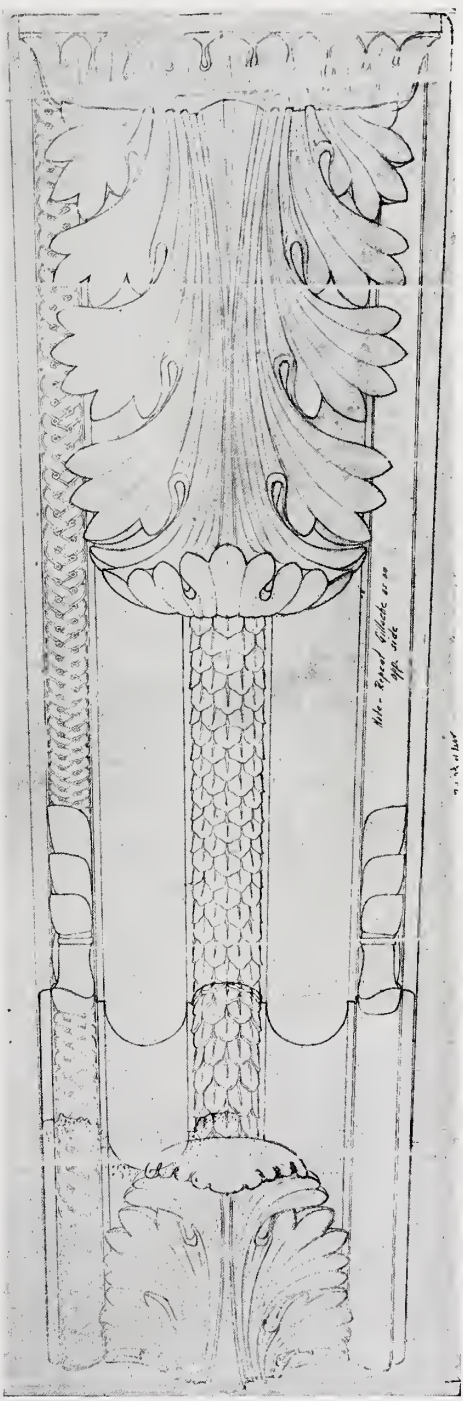
There are many aspects of such a problem as was involved in this bank



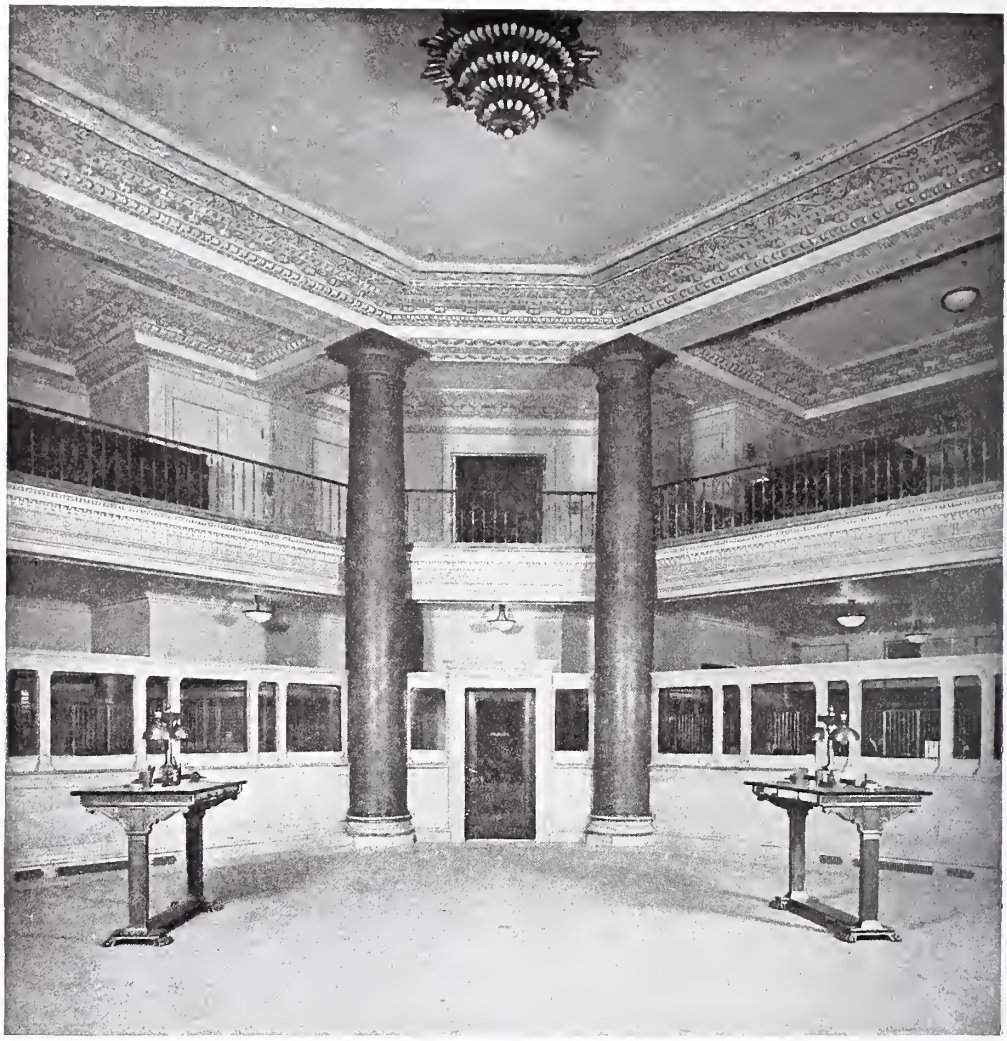
DETAIL STUDY OF ENTRANCE DOOR, SEABOARD NATIONAL BANK, NEW YORK CITY. ALFRED C. BOSSOM ARCHITECT.



DETAIL, SIDE ELEVATION OF CONSOLE FOR MAIN ENTRANCE — SEABOARD NATIONAL BANK, NEW YORK.
Alfred C. Bossom, Architect.



DETAIL, FRONT ELEVATION OF CONSOLE FOR MAIN ENTRANCE — SEABOARD NATIONAL BANK, NEW YORK.
Alfred C. Bossom, Architect.



BANKING ROOM—MAIN FLOOR, SEABOARD NATIONAL BANK, NEW YORK CITY.
Alfred C. Bossom, Architect.

building: Vignola or Vitruvius might well have quailed before them. Construction was a simple matter in their day, but now, although modern inventions and methods have found practical solutions for many one-time impossibilities, modern requirements, on the other hand, have very nearly equalized the balance. The steel framing in the building, illustrated here, was a peculiarly difficult and exacting problem, as a glance at the main floor plan will disclose.

The plan, in conjunction with the several photographs reproduced, will illustrate again that attribute of resourcefulness which must go hand in hand with the architectural vision of the pictorial aspect of the building as a whole.

At the convergence of Broad and Beaver streets, considerably less than a right angle, is placed the entrance, which, set as it is on an assumed diagonal axis, at once cuts off the sharp point which these converging streets would otherwise have formed.

The entrance itself is a dignified but



VIEW OF BANKING ROOM, SEABOARD NATIONAL BANK, NEW YORK CITY.
Alfred C. Bossom, Architect.

by no means frigid classic rendering, and the two street elevations are given their architectural character by tall colonnades of engaged columns, set in flush with the building line.

The entrance gives into a small vestibule, with two elevator shafts left and right, and a stair leading up into the banking space, and down into the basement.

On the main banking floor every inch of space has been carefully planned and utilized. The Broad street side and the side along the north party wall are occupied by space for the bookkeeping department, convenient to the tellers' cages which give on the public space. Directly on the diagonal axis about which the plan is disposed is a railed space for junior officers of the bank, and on the Beaver street side of the building, balancing the Broad street portion of the bookkeeping department, is a large space for the senior officers. Opening from this are several private consultation rooms, and the remainder of the floor space is taken up with the loan department, a large security vault, corridors, lavatories and two additional elevators, with a stenographers' room in a sort of wing running north out of the northeast corner of the plan.

To effect virtual symmetry, together with such exact and diversified partition of space on an irregularly shaped lot, is no mean architectural achievement, and the architect is to be congratulated upon the excellently logical and well-articulated manner in which he has accomplished it.

The detail throughout, conservative in its character, is carried out in an agreeable scale with an appropriate absence of ostentation, and the whole building can safely go on record as an able and pleasing solution of a typically difficult problem in metropolitan bank design.

The BUTTON-CONTROL ELEVATOR IN A NEW TYPE OF MODERATE-PRICE APARTMENT BUILDINGS AT JACKSON HEIGHTS, NEW YORK CITY

Andrew J. Thomas, — Architect

THE button-control, or "push-button," elevator is a device which is simple enough from the point of view of mechanics but which in housing economics plays a distinct rôle. It creates an intermediate class of apartments between the low "walk-up" apartment and the tall "elevator" apartment.

The elevator operated by an employee has made possible the tall buildings of America. The converse is true, namely, that the tall building makes the elevator possible. This is because the expense of running an elevator with two operators—one for the day and the other for the night, as required by law in New York—is too heavy a charge upon rentals unless the elevator serves a large rental area.

On the other hand, a button-control elevator, costing little to operate, becomes economically possible in a building of five or six stories in height, serving only a few apartments on each floor. In this group of twelve apartment buildings at Jackson Heights there are two apartments, of five, six or seven rooms, to a floor and five floors to the building. The tower in each corner building has six floors. Thus, each floor has only two families—an arrangement which adds to privacy, enhancing the domestic character of the apartments.

The placing of two apartments to a floor permits latitude of treatment in the plan of the block as a whole. It allows openings to be made in the group, dividing it into buildings of not too wide frontage. The frequent openings, which are about nineteen feet six inches wide in the shortest dimension, afford splendid block circulation, increase the number of corner rooms, and allow the bathrooms, kitchens and fire-escapes to be placed at the sides, where they are not conspicuous.

The location of fire-escapes has always been a difficult problem for the architects of New York apartments. Usually, the only solution of the legal requirements has been to put the fire-escapes on the street front, where they are at once an eyesore and an encroachment on the sidewalk. In the group at Jackson Heights, the passageways between the buildings are used alternately for service entrances and for entrances into the garden. In addition, a rear door from the entrance hall of each building gives access from the apartments to the garden, without going outside the building. Altogether, these various arrangements have resulted in a plan which invests the buildings individually with privacy and charm, opens up the group to the fullest extent, admitting light, air and cross ventilation into the building mass; and, most important of all, permits of a splendid garden in the center, along the whole length of the block.

A practical advantage of the plan is the small court in the rear of each building. This gives more exposure to the apartments because it adds corner rooms; but unfortunately the uneven massing of the building walls along the garden detracts from the architectural appearance when viewed from the garden. This is the chief fault of the design.

A further important detail of the plan is to be noted. The bedrooms overlook the garden. We have here one of those changes in custom which real estate men dread. Too often real estate experts, by insisting that a custom is ironclad, deny



GROUPED APARTMENT BUILDINGS FOR THE QUEENSBORO CORPORATION AT JACKSON HEIGHTS, NEW YORK CITY.
Andrew J. Thomas, Architect.

to building design the very characteristic which is the pride of every other industry, namely, progress. Formerly the street was the location chosen for bedrooms in the apartment plan. The reason for this choice was that apartments were badly planned: the rear rooms fronted on a narrow, pocketed court, or else had an outlook against a blank wall of a neighboring building a few feet away, on a side or rear yard. As a result, the custom grew fixed of placing the bedrooms on the front. But, now, since architects have improved apartment planning, bedrooms may have a rear location overlooking a spacious garden. Not only are they quieter in that position, but they have better ventilation.

The garden itself is, of course, the dramatic feature of the design. More than anything else, it proves the intimate relationship between architecture and economics. This relationship has already been explained (see "Garden Apartments in Cities" by John Taylor Boyd, Jr., The Architectural Record, July and August, 1920) and needs no discussion here. One fact, however, should be mentioned: this garden is designed for use, whereas the garden in the first group which Mr. Thomas planned at Jackson Heights, was designed to be looked at. As the earlier garden was an experiment, it was not thought desirable to encourage people to gather in it. Experience has induced the Queensboro Corporation to go further, and this latest garden is definitely a social place, where the people of the apartments are invited to come. The object is obtained in the design by means of a complete system of circulation and by the use of little paved spaces or terraces, where people may sit outdoors.

On the street elevations, the design emphasizes the block as a whole, at the same time preserving the character and individuality and domestic scale of the different buildings. The corner buildings have been emphasized by towers, and thus act as terminating masses for the elevation of the block. These, and the horizontal bandings on the lower stories of the buildings, tie the group together.

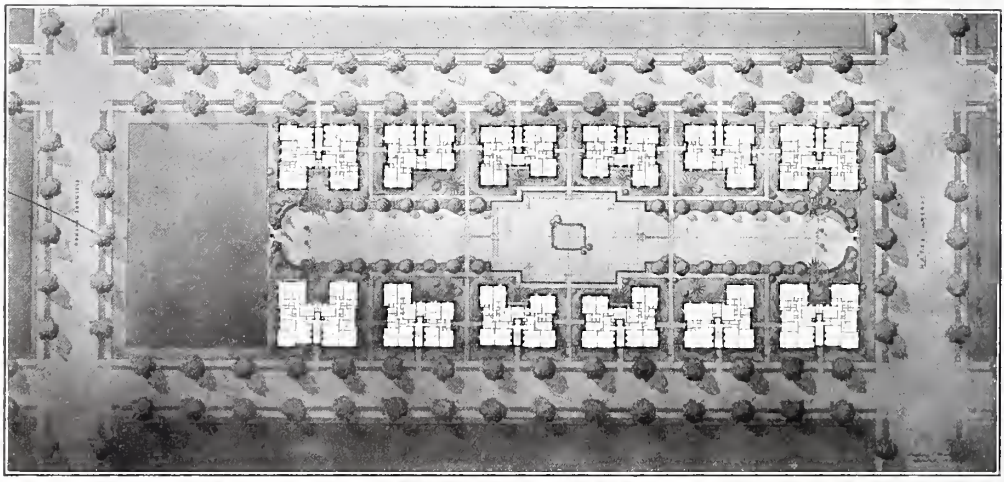
The exterior has been kept very simple, relying for effect on a contrast of well-proportioned windows against ample wall space and on a picturesque sloping slate roof. The brick is unusual—a light coppery-colored red, laid in modified Flemish bond, the nine-inch length of the

bricks being a departure from the standard size. The slate of the roof has rough butts and a certain variation in courses and in color, the color consisting of light greenish and yellowish brown shades. The stone doorways, a few hand-wrought iron balconies, the finials, and the crestings of roofs and chimneys, are just enough to give accents to the design. Here, again, this simplicity is a change from the usual apartment house treatment in New York city. To overcome the ugliness caused by the defective placing of fire-escapes on the front, referred to above, architects have resorted to a more or less gaudy design of entrances, cornices and window enframements, an effect that is rarely successful and always expensive.

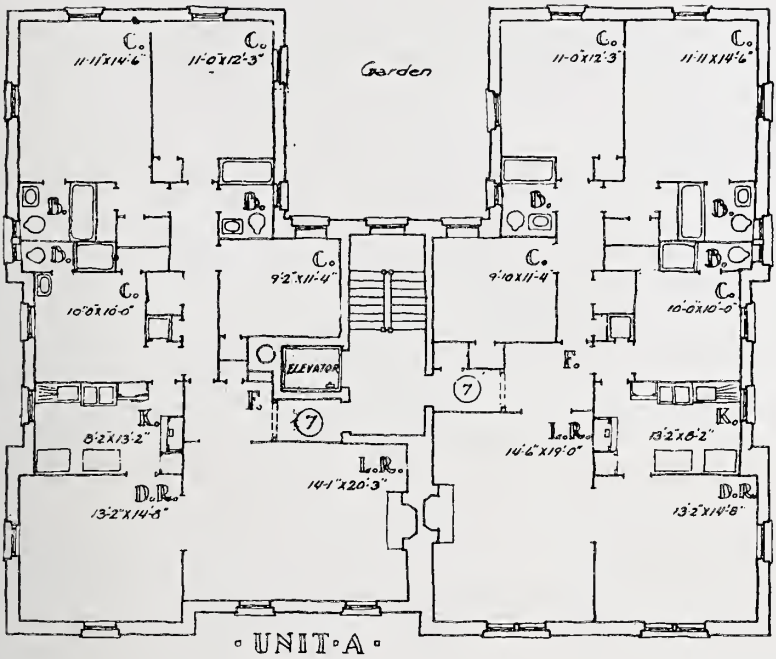
It remains to point out that these apartments are financed to be sold on a "tenant-ownership" plan. The tenant-ownership plan seems to be the only means of introducing home ownership for the mass of the population in our great cities. Because of high land values, economic city housing in most cases means apartments, and apartments hitherto have meant tenantry. This condition in turn has reacted unfavorably upon the architecture of lower-priced apartments; a system of speculation has grown up whereby badly designed and constructed apartment buildings were run up and unloaded upon uninformed investors before their defects became evident. But, with tenant-ownership, permanency enters into the problem, and the cost of inefficient design and the maintenance cost of poor construction and of waste space must be reduced. Tenant-ownership means better architecture.

In the technical language of finance, each building at Jackson Heights is a separate corporation, and the tenants of each building own the land and building in which they live. The Queensboro Corporation manages the buildings for the tenants, an arrangement which insures responsible and economical operation. A partial payment plan has been devised by which the purchaser may make an initial payment and liquidate his indebtedness by monthly payments of approximately the rental value of the apartment. From each monthly payment the proportionate share of the operating cost is taken and the rest applied toward the payment of interest and principal. References are required of each purchaser, and care is taken that the tenant is responsible and will be a desirable neighbor.

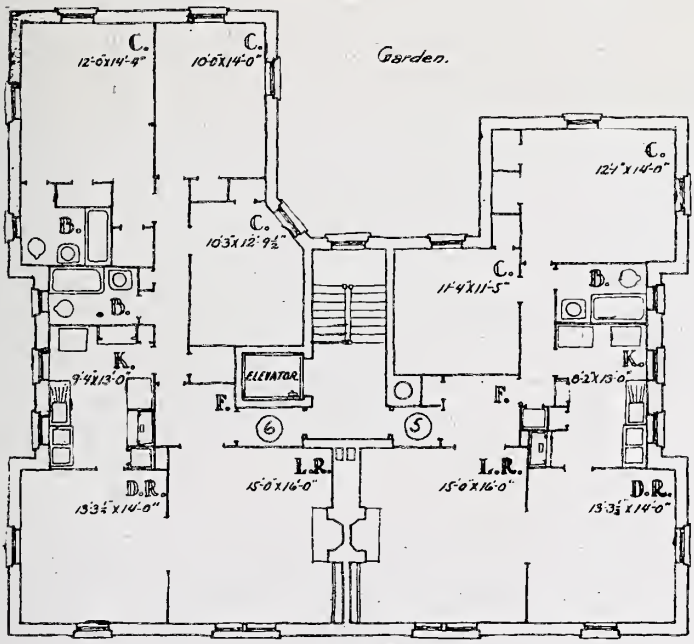
There is but one mortgage on each building, held by such institutions as the



BLOCK PLANS OF GROUPED APARTMENT BUILDINGS FOR THE QUEENSBORO CORPORATION AT JACKSON HEIGHTS, NEW YORK CITY.
Andrew J. Thomas, Architect.



UNIT A



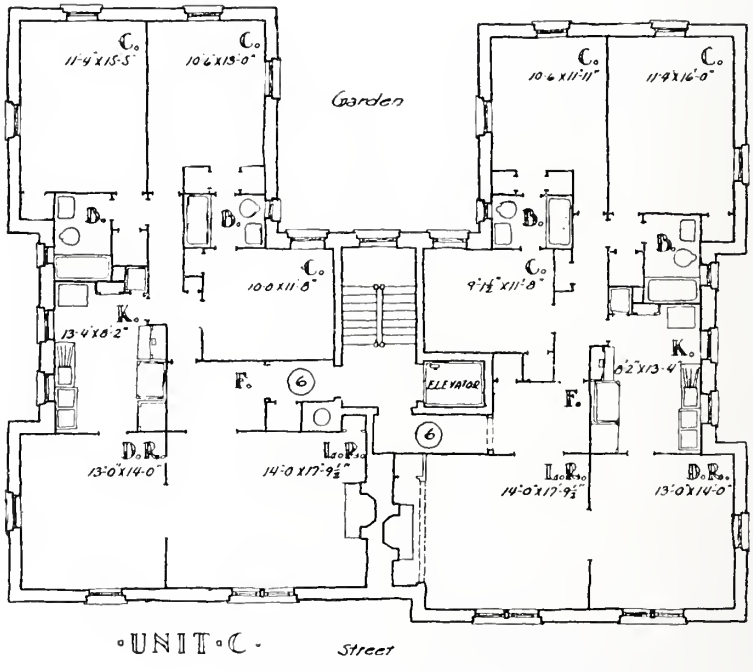
UNIT B

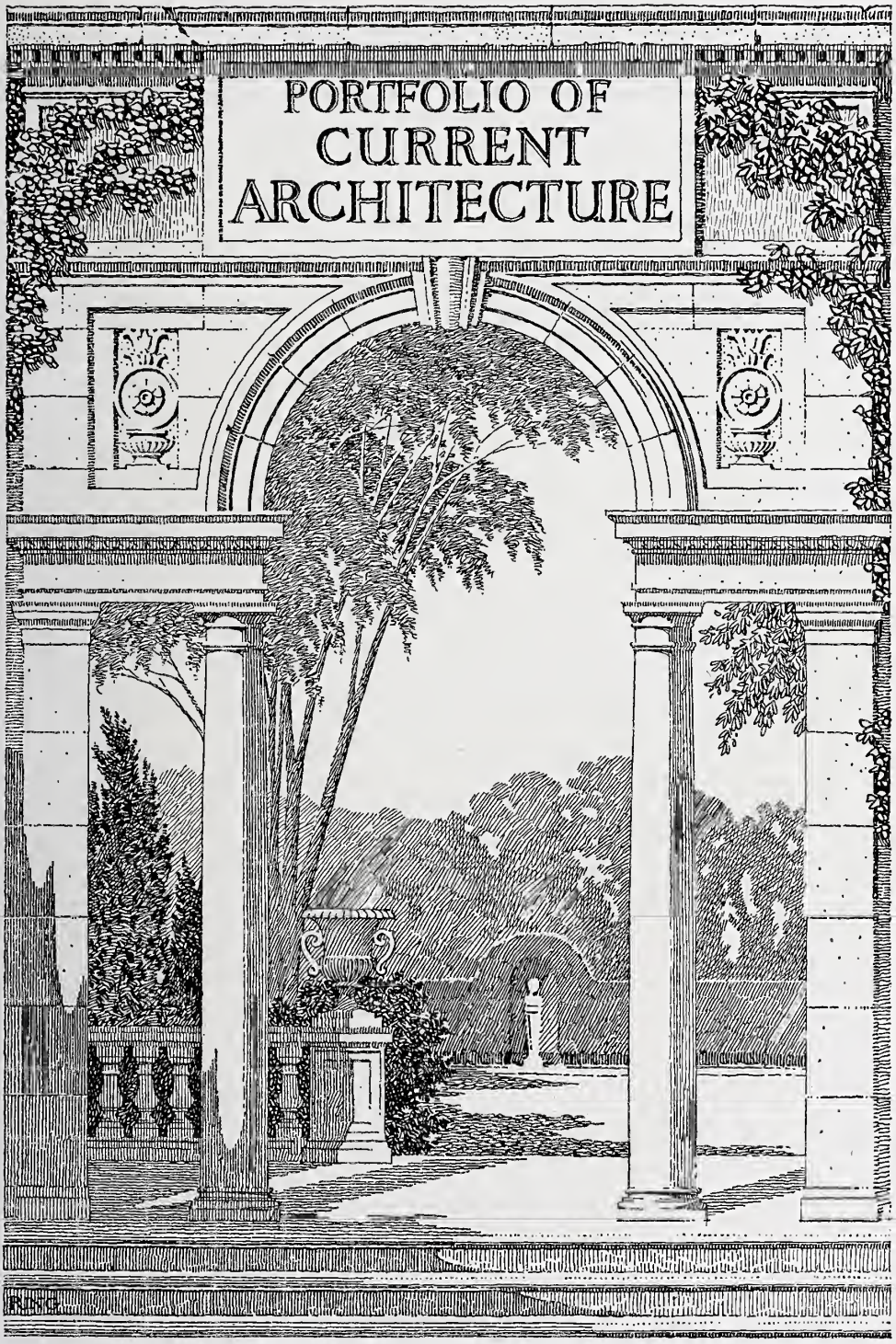
Street

Metropolitan Life Insurance Company, the Prudential Life, or the Long Island City Savings Bank. The mortgages are amortized from the monthly payments. Should the purchaser of an apartment be obliged to leave the city, a Resale and Rental Department aids him in disposing of his stock. The apartment will be rented for him or will be offered for sale.

The broader advantages of this plan are evident. It insures that security of value and that reasonable opportunity of resale without loss, in case the owner is compelled to move, which alone allows home ownership to compete with renting in the unstable conditions of modern industrial society. It should be added that the legal structure of incorporation is important in a tenant-ownership plan. The rights of the majority and of the minority ownership are carefully protected; authority is given for financial dealings, such as renewing mortgages, etc.; and, finally, means are provided for dispossessing people who turn out to be disreputable, just as tenants may be dispossessed. Ownership of stock does not imply unqualified ownership of an apartment.

Altogether, this building project is quite as noteworthy from a social as from an architectural standpoint. It upsets many of the old New York real estate conceptions; yet, radical as it is, its elements have been tried out in former groups by the Queensboro Corporation and have met with striking success. The proof is that nearly one thousand families live at Jackson Heights and six hundred families have bought apartments there, thus developing one of the largest housing communities in New York city. It is a conservative statement to say that groups like these open a new era in American architecture. With the high cost of construction and the mounting cost of land, together with the operation of the Zoning Law, it becomes clear that economy in housing means large scale planning, construction, promotion and maintenance.




PORTFOLIO OF
CURRENT
ARCHITECTURE



RESIDENCE OF GEORGE DE FOREST LORD, ESQ., WOODMERE, LONG ISLAND. WILLIAM HARMON BEERS, ARCHITECT. FRANK C. FARLEY, ASSOCIATE.



RESIDENCE OF GEORGE DE FOREST LORD, ESQ., WOODMERE, LONG ISLAND. WILLIAM HARMON BEERS, ARCHITECT. FRANK C. FARLEY, ASSOCIATE.



RESIDENCE OF GEORGE DE FOREST LORD, ESQ., WOODMERE, LONG ISLAND. WILLIAM HARMON BEERS, ARCHITECT. FRANK C. FARLEY, ASSOCIATE.



RESIDENCE OF GEORGE DE FOREST LORD, ESQ., WOODMERE, LONG ISLAND. WILLIAM HARMON BEERS, ARCHITECT. FRANK C. FARLEY, ASSOCIATE.



DETAIL OF FAÇADE — BULKLEY BUILDING, CLEVELAND, OHIO. C. HOWARD CRANE, ARCHITECT.



ONE OF THE ELEVATOR ENTRANCES—BULKLEY BUILDING, CLEVELAND, OHIO. C. HOWARD CRANE, ARCHITECT.



PART OF FRONT LOBBY—THE BULKLEY BUILDING, CLEVELAND, OHIO. C. HOWARD CRANE, ARCHITECT.



REAR LOBBY AND ENTRANCE TO SHOP—BULKLEY BUILDING, CLEVELAND, OHIO. C. HOWARD CRANE, ARCHITECT.



FRONT ELEVATION—RESIDENCE OF PAUL SHIELDS, ESQ., GREAT NECK, LONG ISLAND. C. I. PATTERSON, ARCHITECT.



GARDEN ELEVATION—RESIDENCE OF PAUL SHIELDS, ESQ., GREAT NECK, LONG ISLAND. C. I. PATTERSON, ARCHITECT.



ENTRANCE DETAIL—RESIDENCE OF PAUL SHIELDS, ESQ., GREAT NECK, LONG ISLAND. C. I. PATTERSON, ARCHITECT.



OFFICE BUILDING — ENGLAND, WALTON & CO., INC., PHILADELPHIA, PA. BOYD, ABEL & GUGERT, ARCHITECTS.



COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE, ENGLAND. E. S. CARPENTER, ARCHITECT.



COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE, ENGLAND. E. S. CARPENTER, ARCHITECT.



COTTAGE AT LYGON ARMS, BROADWAY, WORCESTERSHIRE, ENGLAND. E. S. CARPENTER, ARCHITECT.

The EARLY ARCHITECTURE of PENNSYLVANIA

PART XII – Churches

By A. LAWRENCE KOCHER

THE variety of religious faiths in Pennsylvania is a key to the diverse character of church architecture of this colony. The traditional aisled edifice of the established church of England, the restrained and austere meeting-house of the Quaker faith, the medieval Saal of the Moravians, are but a few of many church forms that existed in Pennsylvania. This variety of forms is evidence enough that church builders were determined to go their own way, however similar their places of abode. Here is abundant proof of the influence of a creed or a ritual in shaping walls. Even more than the materials of construction does a use or a tenet dictate the external and internal disposition of a building.

Of the various religious buildings, the Friends' Meeting House was the earliest in its time of erection, the most primitive, and the simplest in construction and arrangement. These Quaker gathering places had a rectangular plan divided by a wall that separated the men from the women after the manner of the churches of the Eastern Mediterranean, with a double door or separate entrance for each of the sexes. The attention given to the appearance of the building was so scant that meeting houses seldom attained the distinction of real excellence in architecture, and so need not be given further consideration. We may also omit the unusual and exotic "Gemein Haus" or Saal of the "Pennsylvania Dutch."

St. David's Church at Radnor may be considered as characteristic of the church of the English Episcopal faith during the period of "beginnings"—before the builders of the colony had formulated a church style. St. David's was built by Welsh settlers of Radnor and vicinity in 1715. Its walls are of stone, laid up as random rubble work, in very much the same free fashion as were the walls of the Pennsylvania stone farmhouses of the same district. The exterior measures forty feet in length by twenty-seven in width; the height is eighteen feet from the floor to the "square" (lowest part of the slope of the roof). The entrance, an arch-headed doorway, is at the center of the side, flanked by round-headed windows. Two windows are on the opposite wall and a single large window penetrates the eastern end, behind the present chancel. The interior is devoid of pretense, and, as first built, revealed the timbers of the trussed roof above.

The stone Meeting House of Carlisle is an advance over St. David's and is typical of the larger inland church of the eighteenth century. It was begun in 1757 from drawings prepared by Robert Smith, better known as the builder of Carpenters' Hall in Philadelphia.

This Carlisle meeting house is a substantial and dignified structure in which any city or town could well take pride. While it lacks the finish and columnar grandeur which we may expect in centers architecturally more sophisticated, we must, nevertheless, grant the success of this endeavor—sturdy and honestly hewn, as though from the solid rock. It has a quality of appropriateness in a new world and it certainly could not have been set down on a London street without appearing incongruous. The edifice would have been a splendid base for a spire in the manner of the late eighteenth century.

The walls of this church are of partly dressed limestone combined with a smooth faced limestone to form the arches and horizontal bands at the spring line of these arches. The two end windows in the accompanying illustration were orig-

inally doors that have since been converted to their present appearance, while three doors were later added to the west end. The curious practice of adopting the side entrance received a wide usage, regardless of religious belief; and it was not until the opening of the nineteenth century that the traditional plan, with the entrance at the end, returned to favor.

The division of the interior into the ground floor and gallery is clearly expressed upon the outside by the double row of windows. The ground floor of this church, when completed, was of brick, raised along the outer wall, against which were placed square pews. The two entrance doors opened upon aisles which extended across the audience room and a high pulpit was placed on the northern side, centrally situated between two large windows. The pulpit ornaments were procured by the women of the congregation, who appear to have had no hesitancy in making their good works known to later generations. The superscription recording their gift reads:

"We the Subscribers, being informed that a sum of money is wanted to complete the Ornaments of the Pulpit in the Presbyterian Church in Carlisle, which was erected by a subscription raised by the ladies principally residing in said town; and willing that our names may also appear as promoters of so laudable a design, do promise to pay, into the hands of Mrs. Margaret Craighead, the sum annexed to our names respectively, to be forwarded to Mrs. John Montgomery in Philadelphia who is getting ornaments prepared for the above purpose."

No church in America has received more attention from writers on American Architecture than Old Christ Church in Philadelphia. With due respect for the ecclesiastical gathering places of New England, it is safe to say that the attention given to Christ Church is well considered and properly deserved. It is a church over which one can well enthuse, for its design and its finished detail are such as to challenge comparison with such London prototypes as St. Martins-in-the-Fields and St. Mary-le-Bow of Cheapside.

Dr. John Kearsley, physician of Philadelphia and amateur architect, assumed the superintendence of the construction of Christ Church in the spring of 1727. His part in the preparation of the drawings can scarcely be doubted, although the records are very vague in speaking of his connection with the undertaking. In 1743 the minutes of the church state that Dr. John Kearsley had served since the year 1727, "as trustee and overseer in carrying on and rebuilding the church, and for five years of the time had given daily attendance." In 1744 there is an entry in the minutes, "for building the outside of the church, which was done at two separate times,—there was paid to Dr. Kearsley £2,197."

Since the term "architect" was not generally used in the colonial days in America, it is altogether natural that the title would not be associated with the name of Kearsley. There is strong presumptive evidence that Dr. Kearsley's services to the church included the preparation of certain necessary drawings, but that he was also materially aided in his undertaking by the independent trades and craft guilds of Philadelphia. There is every reason to suppose that the designer had before him the memory or drawings of early eighteenth century churches by James Gibbs, Nicholas Hawksmoore, or others; but here again the modifying influences of the new world with brick rather than cut stone as the available building material should not be lost sight of.

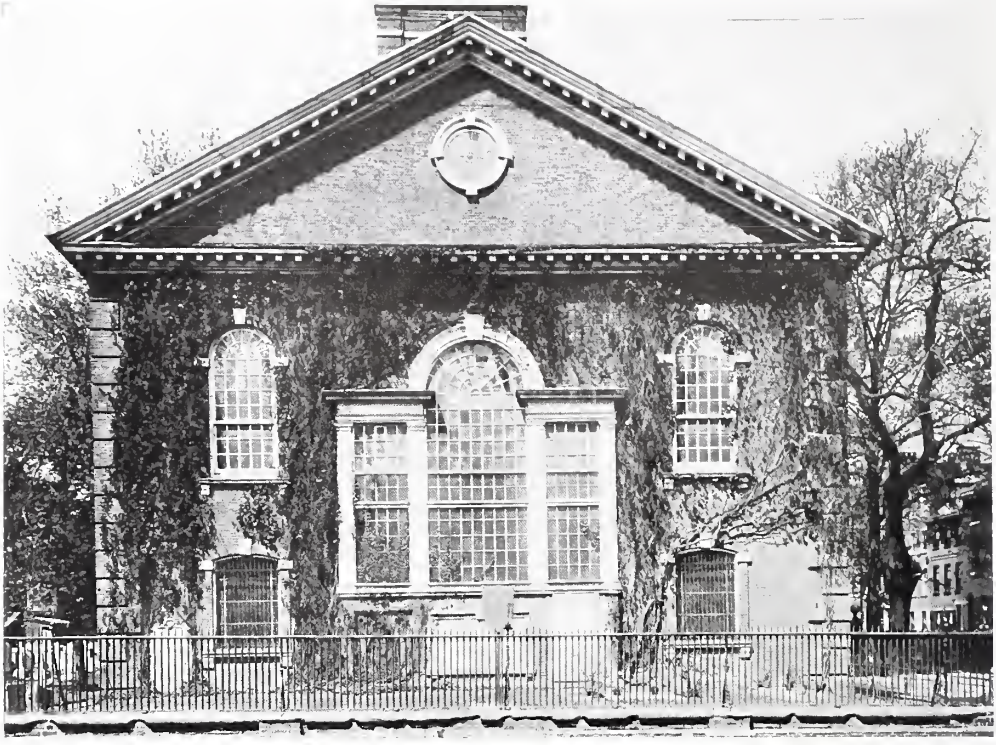
The exterior is built of red brick with black headers, with molded brick used for trim about the windows, at the wall base, and beneath the wood cornice. If there was imitation, it was done quite freely and with an understanding of scale and a good taste that betrays an uncommon degree of architectural skill.

Christ Church measures sixty-two feet in breadth by eighty-seven feet in length. The tower is twenty-eight feet square at the base. The steeple is one hundred and ninety-six feet eight inches from the ground level to the top of the weather-vane.

The exterior of the church is note-



CHRIST CHURCH,
PHILADELPHIA, 1727.



EASTERN END OF ST. PETER'S CHURCH, PHILADELPHIA, 1758.



INTERIOR OF ST. PETER'S CHURCH, PHILADELPHIA, 1758.

worthy for the decided success in which the interior disposition of the nave, floor level and galleries are shown and accentuated by the use of a two storied brick pilaster treatment and projecting ends. The molded wood details of the interior are noticeably lighter and more wooden in character than the vigorous handling of the exterior cornice, end gables and windows.

The spire of Christ Church was not erected until 1753-4. Its design is ascribed by records to a Mr. Harrison. Robert Smith of Philadelphia was its builder.

St. Peter's Church, Philadelphia, is one of the few churches of the colony with an interior unchanged by additions or other evidences of "progress." It has a decided savor of the past, with its high square pews and lofty pulpit. It was built in 1758-61 as an overflow chapel for Christ Church under the direction of a building committee of which Dr. John Kearsley was a most active member. This committee produced a "Plann or Ground Plot of the intended (St. Peter's) Church, ninety feet long by sixty feet broad; which was approved by the Vestry." The exterior is of brick with arched windows at the gallery level and low segmental arched windows at the ground floor. The entrances are at the south side. The brick tower was added in 1842 from the design of William Strickland, an architect of Philadelphia.



SPIRE OF TRINITY LUTHERAN CHURCH, LANCASTER, 1792-94.

Holy Trinity Lutheran Church of Lancaster does not attain the high success of the Philadelphia church, after which it was modeled. It is, nevertheless, one of the most beautiful churches of Pennsylvania. It was built by German Lutherans who migrated to Lancaster County in 1710. It followed an earlier church that soon proved inadequate both in size and dignity. The cornerstone of Holy Trinity was laid in May, 1761, and the construction progressed in a leisurely fashion until its dedication in 1766. The builder must have taken pride in his work, for he inscribed his name at the base of the tower, "Johannes Epple, 1761"; but no clue is given as to the name of the architect. The woodwork crowning the tower was begun in 1792 and carried to completion in 1794.

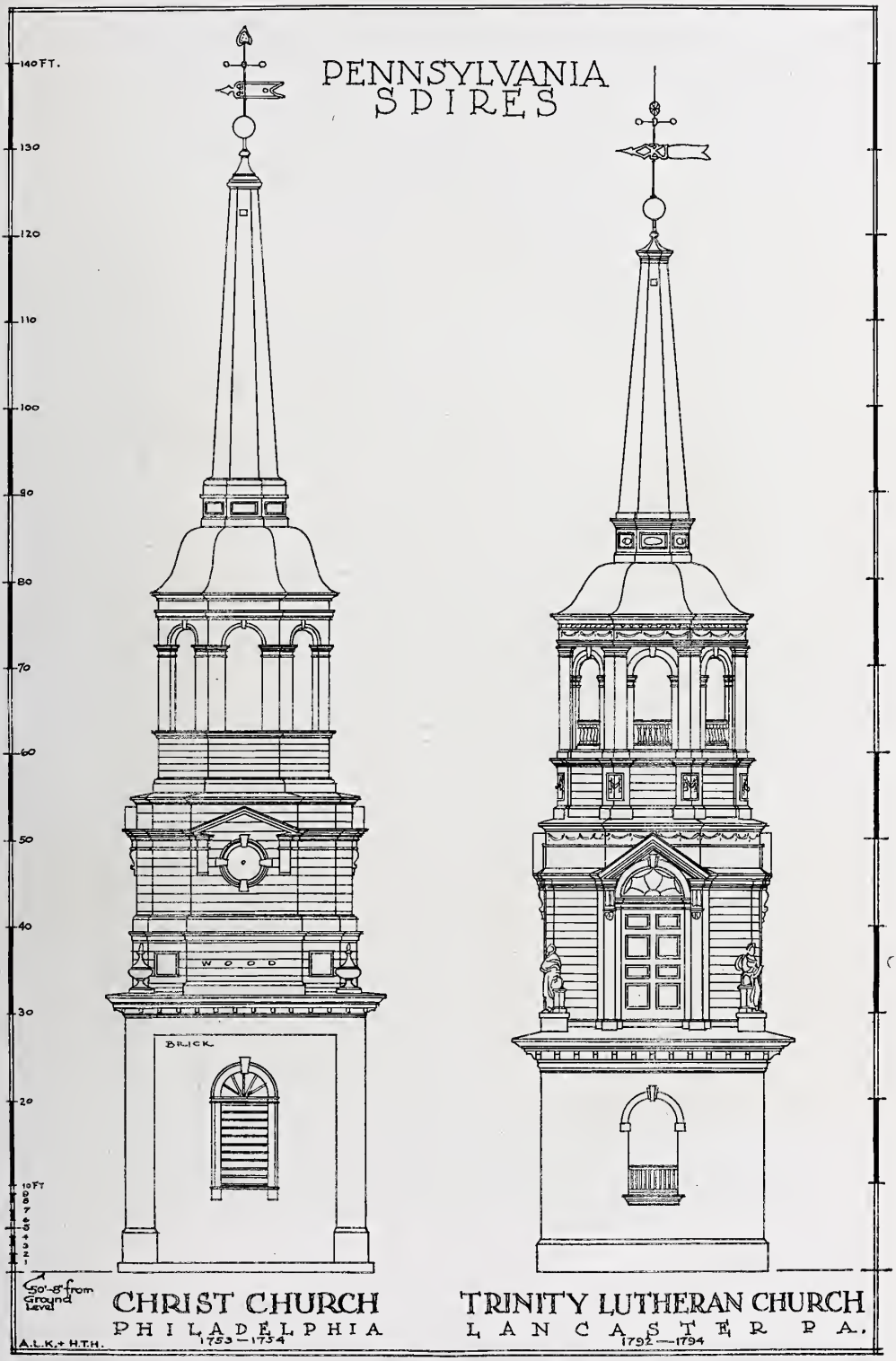


SPIRE OF CHRIST LUTHERAN CHURCH, YORK, 1811-1814.



ZION'S REFORMED CHURCH, YORK, 1793-1800. BUILT BY PETER AND JACOB SCHMAHL, DEMOLISHED IN 1913.

© Swords, York, Pa.


PENNSYLVANIA
SPIRES
140 FT.
130
120
110
100
90
80
70
60
50
40
30
20
10 FT
WOOD
BRICK
50'-8" from Ground Level
CHRIST CHURCH
PHILADELPHIA
1753—1754
TRINITY LUTHERAN CHURCH
LANCASTER PA.
1792—1794
A.L.K. + H.T.H.



CHRIST CHURCH,
YORK, PA.



TRINITY LUTHERAN CHURCH,
LANCASTER, PENNSYLVANIA.



QUAKER MEETING HOUSE, BELLEFONTE.

The spire of Christ Church was the forerunner of several worthy steeples erected within the commonwealth during the last quarter of the eighteenth and the early part of the nineteenth centuries. There appears to have been a wave of interest or pride in spire building during this time.

Into the building of these stout belfries and spires went a craftsmanship such as gave fame to the shipbuilders' art of Nantucket, Salem and the towns of the lower Delaware, and that gave lasting qualities and delight to the colonial doorways and mantels. The towns took no small pride in their church spires, and the erection of one of them was a civic event of much importance. Benjamin Franklin gave of his busy life to manage a lottery for the purpose of raising the "spire fund" for Old Christ Church.

The tower and spire of Christ Lutheran Church of York was built by all classes of workers of the community—by carpenters, masons, locksmiths and farmers.

The Philadelphia church spires were models for Holy Trinity of Lancaster, the Zion Reformed Church, and Christ Lutheran Church at York. In all of these the transition from the square base to the octagonal bell tower and spire is managed in a satisfactory manner. The tower of stone or brick, in each case, is conceived of as a kind of pedestal upon which the superstructure of wood is mounted.

The Lancaster steeple shows some advance over the Philadelphia church in the completeness and the striking interest of the woodwork details. The builder of this spire was probably not the same individual who executed the construction of the body of the church, for a difference in the treatment of the woodwork in the two places is marked. The spire is quite light, refined and with a considerable grace of outline and finish; while the church proper displays moldings and doorway pilasters that are heavy and almost crude.

The wood figures at the angles of the belfry represent the four Evangelists, Matthew, Mark, Luke and John. They are unusual examples of sculpture in conjunction with the early architecture of



OLD SALEM CHURCH, LEBANON, 1796.
CHRISTOPHER UHLER, "MASTER BUILDER."



STONE MEETING HOUSE, CARLISLE, 1757.
Robert Smith, Architect.
Photograph by A. Allen Lime.



INTERIOR, ST. DAVID'S CHURCH, RADNOR, 1715.



"WINE GLASS" PULPIT, PEACE CHURCH, SHIREMANSTOWN, 1798.

America. It is probable that they were carved in the workshop of William Rush, the ship-carver of Philadelphia who made the wood statue of George Washington in Independence Hall, and who also made various architectural carvings—including the statues of Tragedy and Comedy which were in front of the old Chestnut Street Theatre of Philadelphia.

From this summary account of the church building activities of the Pennsylvania colony we should gain some idea of the chief characteristics and growth of early Pennsylvania church architecture. It would have been superfluous to do more than to examine the main types. Notwithstanding the diversity of forms, there is a certain sameness of plan that followed from the closely united community life. In all the worthwhile results there existed a continued dependence upon English classical models. In all there is a prevailing practicalness and a downright thoroughness of craftsmanship that gives a high rank to this phase of the architecture of the middle colony.



DETAIL OF PULPIT MOLDS, PEACE CHURCH, SHREMANSTOWN.



A PLAYHOUSE AND STUDY

Designed by Mr. & Mrs. Thomas Hunt for the Children of Mrs. Daniel H. Hamilton, Centerville, Cape Cod, Massachusetts

BY THOMAS HUNT
With Photographs by Alice Boughton

ALONG a charming path that winds over a hill and through an airy grove of trees, nestling coyly among the branches, we come upon a cottage out of a Fairy-tale. Hansel and Gretel might have found the Old Witch here, or Red Riding Hood visited her Grandmother. In truth, it is a Fairy Cottage, and the good Fairy is Mrs. Daniel H. Hamilton, who had the impulse to build a wondrous playhouse for her children, Dan, Jr. and Margaret and all their friends. When the idea was first proposed to a local contractor, he submitted plans and sketches for a very ordinary type of wooden bungalow much like any we see along our beaches—but this was not at all to the good Fairy's taste.

Now, as artists are people "who meditate and conceive of pleasant things," the thought came to her that an artist would be just the person to plan her little building and all its furniture and decorations. No big architects, thought she, who dream only of some great public monument or building, but some artist who loves fairy tales and quaint little houses to play in.

Nothing could be more ideal than the site chosen on which to build. The house stands like a bright flower under the summer clouds on a little hill that rises above the flat marsh meadows, overlooking the white sand dunes of Cape Cod and the blue waters of Vineyard Sound. It's a jolly little house, with golden white walls and steep pitched red tiled roofs and a green oak door with hand-wrought latch knocker and decorated hinges. The woodwork is painted a glorious blue-green; painted panels recessed into the walls, symbolizing the four seasons, gleam jewel-like through the swaying branches of the wind-twisted pines.

In plan it is extremely simple. A main play room (20 x 30 feet), from which are extensions (16 x 18 feet) used as



STAGE IN THE THEATRE OF THE PLAYHOUSE. DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS, DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.

stage and studio respectively. A steeply pitched roof rising from low side walls, purlins and rafters, hand-hewn, with cross beams eased into the wall with brackets, all suggest great strength and stout construction and give a most picturesque quality to the interior.

The fireplace, big and generous, faced with faience tiles from special designs and executed in glowing lines and hues, gives the cheering quality of an Old World peasant fireside. Deep embracing window seats and the low ceiling of the balcony overhead create a cosy and intimate inglenook, where to foregather and listen to pleasant tales on stormy days.

Big windows to let in air and sunlight —or to gaze up at the big white fleecy clouds—little windows to look out across the silver ribbon of the river, winding through the sedgy marsh. A wide, stout oaken door, round topped, with hand-wrought iron work, gives generous welcome to friends and promise of stout resistance against those rough giants, wind and water.

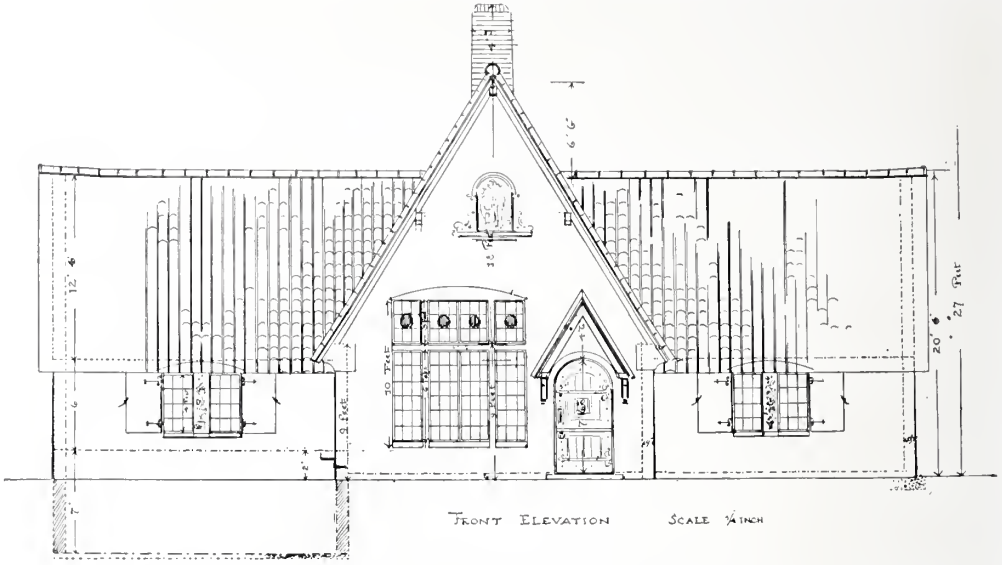
Originally planned to lay the floor in quarry tile, it was found from experience, that owing to the condensation of moisture due to fog, these would be extremely unpleasant for the children to play upon; so oak tiles, laid in nine-inch squares and colored alternately blue and orange, have proven a most happy thought.

Using the Hamilton Family Group as a motif in a unique and decorative design, electric wall sconces, executed in Persian faience tiling, diffuse a delightfully restful glow throughout the room and makes a very effective and beautiful lighting scheme. Supplementing these are two floor standard lanterns, models of what can be done beautifully without extravagance, painted a wonderful orange; the quality of light from these specially treated parchment lanterns is enchanting.

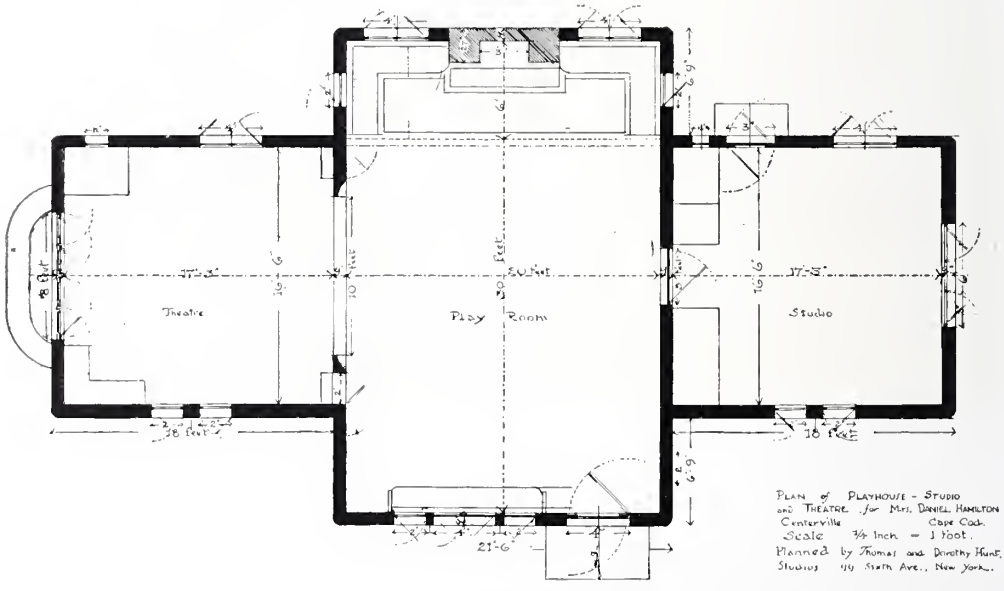
There is a suggestion of Gothic feeling pervading the building, undoubtedly. The



DETAIL SHOWING ONE OF THE GABLES OF THE PLAYHOUSE. DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.



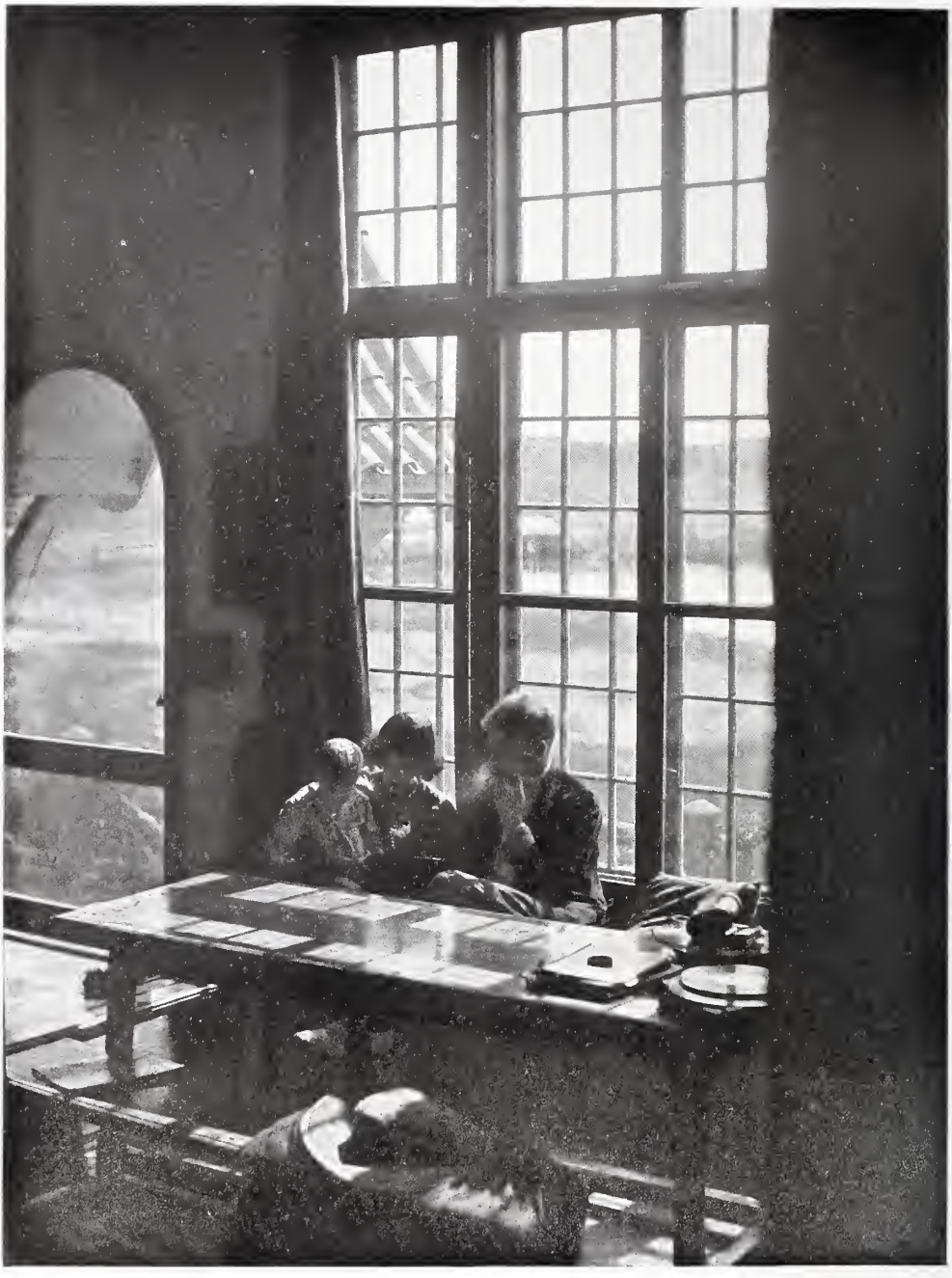
FRONT ELEVATION. PLAYHOUSE DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.



PLAN OF PLAYHOUSE. DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.



DETAIL SHOWING FIREPLACE AT THE END OF THE PLAYROOM. PLAYHOUSE DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.



DETAIL SHOWING FRONT ENTRANCE TO PLAY-HOUSE. DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.



DOORWAY IN PLAYROOM, LOOKING TOWARD THE STUDIO. PLAYHOUSE DESIGNED BY MR. AND MRS. THOMAS HUNT FOR THE CHILDREN OF MRS. DANIEL H. HAMILTON, CENTERVILLE, CAPE COD, MASS.

angles of the roof—the eaves—the hand-tooled timbers—the heavy studded oaken door and simple flat wall spaces, and the marked simplicity of mouldings and trim —but it is only a suggestion and springs from the sincerity of the designers rather than from a studied attempt to copy some Gothic building.

The furniture, designed and executed by Mr. and Mrs. Hunt, carries out this simplicity of line and honesty of construction. It is strong and sturdy and well joined together, all of choice oak, but it has an elegance and grace quite its own. Painted a beautiful blue rubbed into the grain—preserving always the quality and texture of the wood—striped and ornamented a glistening orange—the inset paneled backs, painted with designs of figures and flowers in a modern style—glowing, rapturous color and gold leaf—against the flat, warm, rough plaster, they gleam like illuminated missal pages against a monastery wall.

Occupying the centre of the floor—for remember this is a real playhouse for boys and girls and grown-ups to really play in—stands the "Treasure Box," the repository of young "Dan Ham's" playthings, modeled after a famous old Spanish sea chest with hammered brass corners and straps and lock plate, with rings around the base to lash it to the deck in very—oh, *very* rough weather. All decorated with pirates burying their treasure—and Spanish galleons; an inscription from Masefield about the bold bad Buccaneers, running about the lid.

Over the fireplace and along the balcony, which is reached by a ship's ladder, are three painted panels executed by Mrs. Hunt, which bring to life again all the wonderful and enchanting characters of the fairy tales. Here are Red Riding Hood, Prince Charming, Cinderella, the Old Witch, the Enchanted Princess and Hansel and Gretel—all marching before us.

Someone suggests—"Let's have a play." All right—we agree—and someone draws aside that beautiful tapestry whereon is depicted the love and mystery of Pierrot and Columbine in an enchanted abandoned pleasaunce—and behold! we have before



LOOKING TOWARD THE RIVER.

us a perfectly equipped little stage, with footlights, spotlight and painted sets of scenery that any boy can fold up and arrange easily by himself and all the trappings of the make-believe world—with snow for the snowstorms and thunder—'n everything.

Opposite we enter into the other extension where our good Fairy plays in her own way, stenciling patterns of flowers and vines in lovely colors on silks and satins which she uses for gorgeous costumes in some of the childrens' plays.

So you see it is really a playhouse. Here are no classic mouldings, no orders and other nonsense. Not created in the pedantic spirit of striving to make something exactly like something or other according to some frozen tradition, but conceived in a spirit of play and a spontaneous desire to build a simple house with good proportions and beautiful. Perhaps this has not been achieved altogether, but it is something to have preserved even a little of this quality in our sober work-a-day-world.



VERY ANCIENT CORNCRIB, NOW ABANDONED; GRANITE ROOF SLABS ARE NINE FEET LONG.

The ANCIENT SPANISH GRANARY

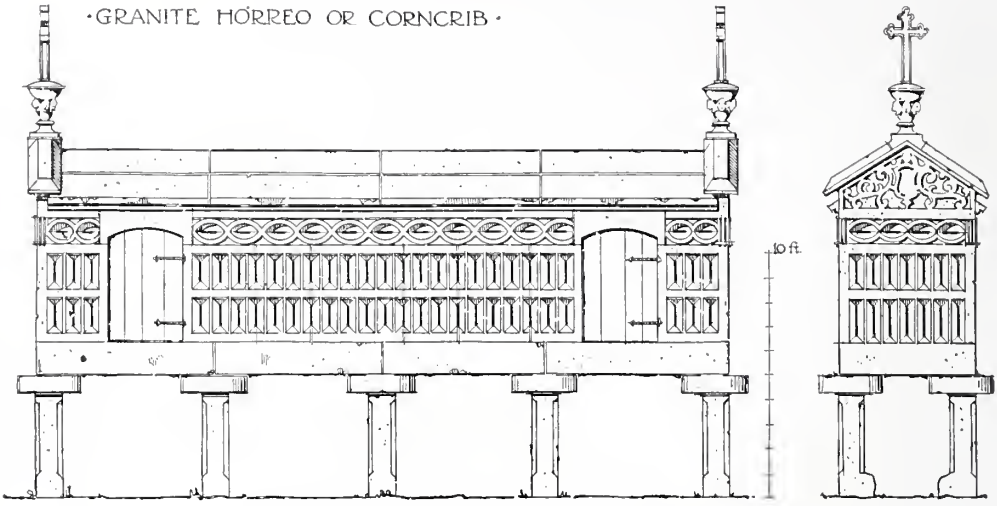
BY MILDRED STAPLEY
WITH PHOTOGRAPHS by ARTHUR BYNE

Photographs reproduced by courtesy of The Hispanic Society of America

THE typical granary of northwestern Spain—Galicia and Asturias—is called *el hórreo* (Latin, horreum). This diminutive edifice is not peculiar to large farms; every rural inhabitant above the day-laborer class has his hórreo, in which to guard for the coming winter all the wealth his little patch of ground has yielded—grain, potatoes, nuts, beans (to say nothing of savory sausages and hams that hang from the roof beams). As Galicia and Asturias are divided into small holdings, the property of returned emigrants whom Fortune favored in South America, the hórreo is ubiquitous. Stilt-mounted, well and artistically built, generally topped by a cross or pinnacle, it never fails to excite the admiration and curiosity of those who have the good luck to visit the beautiful Cantabrican and Galician provinces.

My own first impression was that the latter region could boast twice as many hórreos as the former; but the Asturians promptly set me right. Not only are there more in the territory between Coruña and Santander, but that is also their natural habitat, so to speak. From Asturias they spread east into the Basque province, west into Galicia, and thence into Portugal. It was the same line of exodus, our Asturian informant added, that the young Spanish nation itself took—born in the Cantabrican cave of Covadonga, it sallied forth to beat back the Mohammedan invader and plant Christianity and corn-cribs (the irreverent juxtaposition is not mine) both east and west. As might be expected, it is here in its Asturian cradle that the hórreo has kept closest to the primitive type; that is, it is still built almost exclusively of wood, whereas in Galicia stone is more often seen.

Whatever the material (straw matting and wattle are encountered in Portugal) the principle is the same—always a small house of one chamber resting on columns about six feet high. "Columns" is perhaps too architectural a term, for the rural builder frequently uses nothing more pretentious than a stout timber or



AN XVIII CENTURY EXAMPLE NEAR PONTEVEDRA.

a flat slab of granite whose only preparation for its function is the narrow-in at the top. When the support is rounded this same tapering is preserved. This basic element of the hórreo is called *el pegollo*. In Asturias where the square hórreo is general, four pegollos are driven into the ground; in Galicia, where the oblong shape is the favorite, there are six and even eight to a side. Before the floor beams are laid, each pegollo is surmounted by a flat stone, square in Asturias, disc-like in Galicia and curved on top exactly like a giant petrified mushroom. This part must always be of stone. In Asturias it is called *la muella* (mill stone), but its Gallegan name is more apposite—*tornaratas* (turn off, or protect from, mice). Thus by the simplest possible means the hórreo is made rodent-proof and dry (though some may claim that the inverted tin pan of New England is simpler). The identical mushroom device is employed in the rice-cribs of Madagascar. It is said not to be due to the indigenes, however, but to have been brought to the island by European colonists.

The rest of the construction of the hórreo is along the usual lines. Where wood is the material the floor beams project and frequently form a little gallery with the same spindle balustrade that is seen in the loggias of the Asturian houses. Sometimes the sides are boarded up consecutively, sometimes on a framework of panels. The roof is hipped, has broad eaves, and is covered with red tiles, but thatch is not infrequent. The cross, or perhaps a weather vane, rises from the center. To enter, a portable ladder is used, or a stone stair which stops about eighteen inches short of the door; this solid stepped mass of masonry is called *la subidora*. Altogether the Asturian wooden granary is more domestic-looking than its granite offspring in Galicia. The granite type, on the other hand, were it not raised on stilts, would suggest a simple mausoleum of careful design and costly construction rather than the ordinary adjunct of a rustic residence. Size, shape, and the cross above give this impression.

As it is the custom in this province, Galicia, to stack the grain in the hórreo to dry instead of curing it in the open, as the Asturians do, good ventilation is a prime requisite. The devices for airing the grain are interesting—an adaptation of shutter slats pierced through thick slabs of stone, with the slits running vertically rather than horizontally. Three such slits are pierced in each slab, just as the old Plateresque stone cutters used to shape three Italian spindles for a stair



GRANITE GRANARY—XVIII CENTURY—WHICH FRONTS THE MAIN STREET OF PONTEVEDRA, GALICIA.



WOODEN CRIB ASTRIDE A FARM GATE, NEAR ORENSE.

rail out of each separate block. The entrance is sometimes at the end, sometimes at the side, and there is no built-up stair. The shape being oblong, the roof is of two slopes, with either the cross or a Herrera-like pinnacle at both ends.

Where the hórreo should be placed in relation to the dwelling appears to have been left to caprice, like so much else in Spain. In front of the house, behind it, or on top of it; astride the gate in the stone wall, like a lich-gate; across the way, or in groups of three or four on the nearest hillside; on the banks of a stream or in the very stream itself, like the now submerged lake-dwellings on stilts, built thousands of years ago in Switzerland. The manner of adorning the structure is equally personal. Wooden ones are gaily painted green or vermilion, or the doors only are painted; or the doors are carved in geometric devices such as are found on Asturian bridal chests and other pieces of furniture. This is the decoration in the Naranco example; though not easy to detect in the photo, it consists of old barbaric motifs common to all Europe in the early days, and used by the Asturians in adorning the first Christian churches built in the newborn kingdom of the ninth century. The same designs reappear in the pediments of some of the stone granaries, carved there in spite of the obstinacy of the material. For the rest, the granite hórreo depends for embellishment on its ventilating slits, its pinnacles, of which there is great variety, and its painted door, on which good strap hinges occasionally figure.

About the only departure from the traditional form of slits is the double-storied structure, which simply means that the ground space between the upright supports is walled in with granite blocks to provide shelter for domestic animals. When this is done a wide cornice, flat on its under side and sloped on its upper, takes the place of the separate *tornaratas*.

An interesting treatise on the Iberian hórreo has been prepared in Spanish for the *Comisión de Investigaciones Paleantológicas y Prehistoricas,* by Eugeniusz Frankowski of the University of Cracow. "Hórreos y Palafitos de la Peninsula Ibérica," por Eugeniusz Frankowski. Published by the Junta para Ampliación de Estudios, Madrid, 1918. This author holds the theory that it is but a highly architectural survival of man's habitation during the stone and bronze age, when the raising of the shelter on stakes was, like the subsequent raising of the couch on four legs, a precaution against dampness and insects; furthermore, in the case of



WOODEN CRIB ON THE NARANCO MOUNTAINSIDE, ASTURIAS.



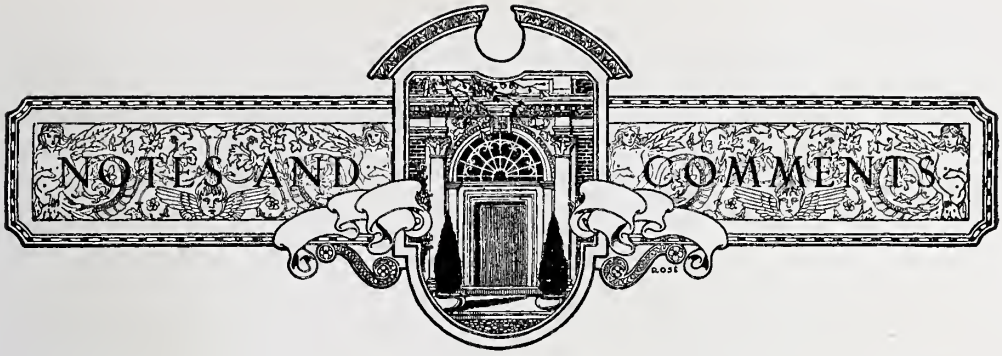
HILLSIDE CORNCRIB NEAR PONTEVEDRA, GALICIA, XVII CENTURY.



CRIBS AWAITING THE HARVEST AT COMBA DE BANDA.

the human shelter, against predatory animals, including man himself. This primitive expedient answered so well for the curing and storing of grain, after man had evolved to that point, that the wooden hórreo on stilts was retained long after the human habitation had reached a high degree of perfection—after wood had been discarded for stone, and airy stilts for a solid foundation below ground. Granaries on poles are no rarity, neither are dwellings on poles; in Central and South America, in the Malay Archipelago, they are a safeguard against tropical rains; in Europe, chiefly in Iberia and the Balkans, they are rather a manifestation of atavism on the part of the races concerned. A proof that the same form of structure was known to prehistoric Spain is found in the notable cave paintings of Altamira, near Santander, in the Asturias. From these invaluable representations of life during the dawn of human culture one can trace the pedigree of the Asturian granary; our author goes even further: one can trace the evolution of the ancient temples of Egypt and Greece. "In all the parts which compose the temples, even those parts which appear at first glance but simple ornaments, one can detect the vestige, though atrophied, of what was once an indispensable element of the paleolithic and neolithic house on stakes."

To the unarchaeological mind it may seem a far cry from the Spanish hórreo to the classic temple, but nevertheless Professor Frankowski presents a clear argument when he claims that the moment the rude wooden stake was changed to stone, shaped and surmounted by a disc, the classic column with capital had begun its long period of gestation. The state-house origin is again visible in the picturesque half-timber architecture of medieval Europe, and still plainer to read is the relationship between the traditional Iberian granary and the column-supported first story of the houses that surround any Spanish plaza.



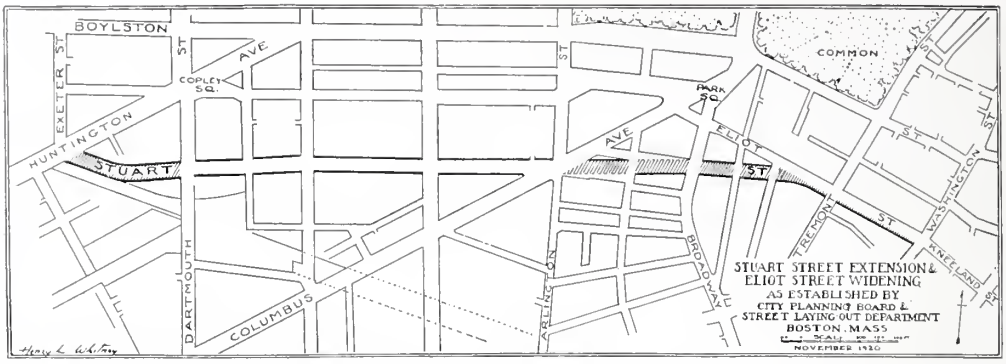
Street Nomenclature in City Planning

Is Rotten Row of Hyde Park, London, less fragrant in the spring time than Berlin's Unter Den Linden or less Elysian than the Champs Elysées of Paris? Is Via Venti Settembre in Rome more historic nationally than Pennsylvania Avenue of America's capital? Will Sixteenth Street in Washington, re-christened "Avenue of the Presidents," become more significant thereby than the route trod by inaugural processions since the time of Jefferson, along whose course were borne the martyred bodies of Lincoln and McKinley? Is a street or boulevard or avenue endowed with attribute or grace in the naming; can it be made to contribute more largely in civic usefulness by its designation? The City Plan Commission, of Boston, believes so and has made several ventures in street re-naming.

Street names originated as the outgrowth of conditions; later they were chosen arbitrarily. Ofttimes, in such case, they were endowed with names of distinguished men. Street names in recent times have descended to the category of embellishment, chosen for melodious or alliterative sound, for mere prettiness of association. One of the first acts of the recently appointed City Plan Commission, of Raleigh, North Carolina, was to discourage a redundant use of "Fairview" in the naming of street, avenue, terrace and parkway of a new subdivision. How irrelevant to streets are such names as Summer and Winter, Oak and Chestnut and Pine, Water and Milk! An early English traveler wrote of America as "a land whitewashed with unmeaning names—the cast-off clothes of the country from which the emigrant came." Are the street names in New England cities a form of plagiarism or "the affectionate covering of the new continent with the familiar patronymics from dear old England," as a more sympathetic English writer noted. Are the Columbus Avenues in cities throughout America a tribute to the discoverer of this country? Is the Washington Street of every city and town in America in memory of the Father of Our Country or an easy following of habit or custom in street naming? From the fact that new communities and growing towns today copy the nomenclature of neighboring cities and adopt hackneyed, meaningless street names, we may believe that repetition or irrelevancy in street nomenclature in American cities has resulted chiefly from indifference or downright laziness on the part of city fathers.

Street names are not to be selected *ad lib* or invented in Pullman car fashion. Analytically, they may be considered in three aspects—descriptive, commemorative, functional. The old portions of a city usually possess names once expressive of the locality, such as High or Highland, River or Canal, Forest or Grove, Beacon or Haymarket or Battery Street. It is said that the archaeologist can often trace previous conditions of topography, the hills and valleys, streams, meadows, woods and fields, by studying the record left in names; and the history of successive civilizations likewise. The Britons, Romans, Anglo-Saxons and Danes left clear trace in the names found in English cities today; and American cities are rich in Indian nomenclature. Only is historical record perverted and falsified by such arbitrary act as that of the surveyor general of central New York, who pedantically assigned the classical names of Troy, Utica and Syracuse to the settlements of the military tract in his charge—less euphonious and lacking the historical significance of the Indian names, Onondaga, Cayuga, and innumerable others. How fortunate that, though originally taken as State designations, we find today such beautiful Indian names given to the avenues of our national capital as Arizona, Nebraska, Wisconsin, Wyoming, Tennessee and others.

Names attached to the older streets of a city, the heritage of original condition or circumstance, should rarely be discarded. They comprise the historical record and background



A NEW ARTERY IN THE STREET PLAN OF BOSTON FOR WHICH THE MONEY HAS BEEN APPROPRIATED. THE CITY PLANNING BOARD HAS OPPOSED THE RECENT PROPOSITION TO CHANGE THE NAME OF KNEELAND STREET TO STUART STREET.

of a city's growth and point the way to selection of descriptive names for newly laid out streets. Unpleasant appellations should, of course, be avoided: Muddy Creek, Snake Bottom, Bear Hill have handicapped entire localities, while Hills and Dales, Garden City, Forest Glen will attract residents to a community. Pomander Walk is preferable to the equally descriptive Pie Alley. A name to which ridicule attaches may do injury: Main Street will henceforth be viewed with little favor. Unfortunate street names may deter residential building in an entire section of the city.

Names of commemoration are least pertinent to a city's streets. Frequently they are given in the flush of enthusiasm over an individual exploit or accomplishment, of small importance in light of later times. A street name is in a sense an empty honor, revokable with the passing of a man's popularity, uninspiring without accompaniment of explanatory tablet or monument. Unless a person or event is worthy of more substantial memorial than the quick naming of a street, the name itself will soon lose significance and the street *per se* serve in no sense as a historic monument.

Fundamentally, names are a utilitarian part of a city's street system, needful for purposes of identification, for convenience in giving direction, for ease in locating one's whereabouts. The two principal streets of a city plan, if intersecting at right angles and of orientation to permit, may logically bear the name of the cardinal points. Alphabetically and numerically named streets have the virtue of offering guidance. If, as is sometimes contended, letters are harder to recollect than names, alphabetical titles may be used, such as Arlington, Berkeley, Clarendon, Dartmouth, etc., in the Boston street system. Paris in 1806 exhibited an ingenious method of designating street directions, of which we read: *"L'inscription des rues a été faite aux coins de toutes les rues, ruelles, culs-de-sac, etc., sur un fond jaune, bordure bleue, en lettres rouges ou noires, en lettres rouges pour les rues qui sont paralleles à la rivière de Seine, et en lettres noires pour celles qui lui sont perpendiculaires"*—an idea which could well be emulated in street signs today.

Functional street names elucidate the city plan. The city of Boston appreciates that continuity of street lines may be disrupted by a succession of names. A year or so ago when Arlington Street was cut through to Columbus Avenue, Ferdinand Street, lying beyond, was re-named Arlington Street; and Castle Square, the terminus of that street, became Arlington Square. Again, Pleasant Street, leading from Park Square to Washington Street, was changed to Broadway, connecting thence over the Broadway Bridge to South Boston. There was ample precedent for this in Boston, as Washington Street in pre-Revolutionary days was Orange, Newbury, Marlboro Street and Cornhill; and Massachusetts Avenue was originally called Weschester Park, Chester Park and Eastchester Park.

Recently a converse case occurred. Stuart Street, which is being widened and extended in accordance with the plan illustrated, eventually is to be continued to relieve a greatly congested business district beyond. A group of business men petitioned the Board of Street Commissioners to change to Stuart Street the name of Kneeland Street, which in a sense continues the general line of the new artery. The City Planning Board opposed the petition, realizing that the very re-naming of a street would in effect deflect the thoroughfare from the destined point of congestion and jeopardize the completion of the arterial connection contemplated. The Mayor concurred in their recommendation.

Boston has perhaps made mistakes in street

re-naming in the past. Washington Street, North, was once Charlestown Street, which street now extends from Charlestown on one side of Boston to West Roxbury on the other. The street plan of the city proper would more clearly interrelate with outlying communities had the name of Charlestown Street been retained and were other streets to bear likewise names of the towns to which they lead. The Boston Post Road serves Boston bound traffic, and reciprocally named thoroughfares would furnish plainly read connections with other points.

Street names signifying objective points within a city are of great convenience: Avenue de l'Opéra, Avenue de l'Observatoire, and Boulevard de l'Hôpital are familiar examples in Paris; and as example of similar nomenclature in a small American community, Quaker Street of a little town up-state in New York leads to the Friends' Meeting House, and Quarry Street, as quite to be expected, leads to the quarry.

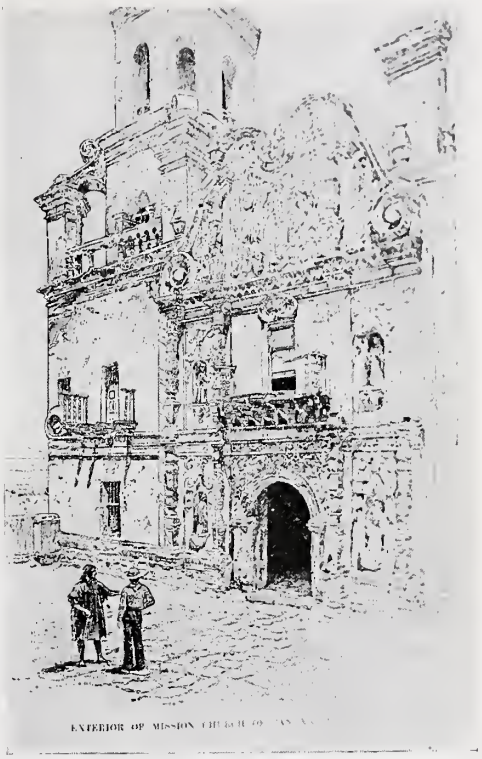
There need be felt no hesitancy in changing street names to clarify the city plan. It is no more improper to re-name a street than a town. At one time, it is said, there were thirty-nine towns named Jackson in Indiana; New York was once Manhatta; Nova Scotia, Acadia; even Boston was not always Boston, for in 1630 the city changed its name from the previous one of "Trimountaine"—in this case the original name would have been more unique, perpetuated as it has been in one of Boston's most important thoroughfares, Tremont Street. But a plea for originality of names would fall upon deaf ears in *New* England and is apart from question of descriptive merit, commemorative value or functional purpose in the appraisal of street names in the city plan.

The City Planning Board of Boston is awake to the possibilities of street nomenclature in the furtherance or hindrance of their projects. City plan commissions elsewhere may profitably examine existing street names of their cities with view to street designations that shall serve in other respect than as "historic monuments of men and events in past history."

GEORGE BURNAP.

Review of "Mission Architecture as Exemplified in San Xavier del Bac"

In an altogether forgotten article on the Spanish-Mexican Missions of the United States in The Architectural Record for September, 1903, occur two rare and interesting photographs of the finest church built in that style which is now extant within the limits of the United States. This is the church of the Mission of San Francisco Xavier del Bac,



EXTERIOR OF MISSION CHURCH AT SAN XAVIER DEL BAC.

nine miles from the present city of Tucson, Arizona. Known only to a few appreciative admirers, the church is the subject of a careful architectural study in a recent book by Prentice Duell, A.M., of the University of Illinois. The title of the work is "Mission Architecture as Exemplified in San Xavier del Bac, including a complete list of the Missions in the Southwest, also a Bibliography of the Manuscripts and Works pertaining to the Subject."

The author wisely points out that the architectural charm of the well press-agented California Missions is somewhat due to their simplicity of line and weathered surfaces, but far more to their ideal setting under a clear blue sky and encircled by green hills, while one could scarcely recline at ease to contemplate the more elaborate and statelier exterior of San Xavier del Bac in a burning desert in a furnace heat of 120 degrees. Facing southward to welcome the supply trains and wanderers from Mexico, this isolated cathedral towers to-day above these barren deserts that caused such misery to early explorers. It is a church ideal in proportion, exquisite and perfect in detail, and well worthy of further study.

Many excellent views are included in this book, some of great archaeological value, showing the mission as it was when abandoned in the early '60's when its forecourt wall and gateway were standing and before the fall of the cemetery wall. Later illustrations show the church as lovingly restored by the Bishop of the Diocese of Tucson, the Rt. Rev. Henry Granjon, a restoration that can be criticized in detail, but to which we owe the preservation of this gem of Spanish art. Too much cannot be said in praise of the Bishop for his expenditure of time, service, and money in this labor of love.

Six plates of measured drawings show block plan, front elevation, figured floor plan, East elevation (wrongly labeled "West") with details of font, doors, and pulpit, a transverse section through nave and towers and another longitudinal section showing the wonderful Byzantine system of vaulting and the perfectly proportioned dome. Mexico is described as the land of church domes and nowhere could one find a dome more perfect than this. Another plate gives details of the towers, baptistery, balustrades and buttresses of the towers, while a sixth sheet shows fixtures, vaultings and arrangement of the mission buildings. One longs for more detailed drawings of the other woodwork, front doors, turned wood *rejas* of the windows, and the most fascinating and totally Spanish corbelling under the balconies of the facade. The elaborate Churrigueresque *retablos* would be worthy of careful measurement, but the very intricacy of the detail makes that work a formidable task.

Mr. Duell traces the origin of the typically Spanish churches of Mexico, with their numerous domes, to the eastern basilica where the Roman style passed into the Byzantine and later in Spain and North Africa into the Saracenic. To say that San Xavier is related to San Sophia is truer than the seeming play on words. This whole style developed in Mexico in a wonderful manner. Few people realize the number of great domed churches in Mexico; and fewer still realize how early the Spaniards began to construct such edifices. As early as 1539, only forty-seven years after Columbus touched the new world, the Bishop of Tlaxcala transferred his cathedral chapter from Tlaxcala to the Pueblo de los Angeles because at that time the latter place had a stone church with three naves.

The Plateresque and Churrigueresque styles are reviewed and the influence of the Aztec decorative schemes noted. The reviewer must dissent from the impression given that the Churrigueresque is always a bad style. Professor Revilla, quoted in Baxter's "Churches of Mexico," denies neither its incorrectness nor its defects, but objects to its condemnation by students who commend the Renaissance style, which, it is true, goes not so far as the Churrigueresque in departing from classical proportions and simplicity, and yet in its development into the Baroque becomes as exaggerated a style. Treated as a decorative style, to be used in concentrated masses of ornamentation against blank wall spaces, it has a beauty of its own. It is Spanish in development, Spanish in feeling, and reflects the manifold colors and complexities of that great golden age of Spanish art. "Not in vain did the Churrigueresque have its birth among a people profoundly religious, and in an epoch where faith was still intense, for to an extraordinary degree it became an expression of Catholic mysticism, as did the Gothic in the Middle Ages. Marvelous is the power of Art to express one and the same sentiment through the media of diverse forms."

For comparison this volume contains a number of illustrations of the missions of California and Texas, especially the great church of San José de Tumacacóri, Arizona, which is now a ruin, but most interesting for a further study of brick construction. The reader is taken for a tour of the church and mission building of San Xavier del Bac, and the pictures, altars, bells, etc., are described in turn. The book contains several misprints and mistakes due to the fact that it was published during the author's absence in military service. Altogether it is a worthwhile work, and one that reflects great credit upon the compiler. It is published by the Arizona Archaeological and Historical Society at Tucson. Price $2.25.

DONALD MILLAR.

A Group of San Antonio Cottages Showing Spanish Influence.

In studying the architecture of American cities, it is interesting to note how distinct is the cleavage between different periods. We are acustomed to these differences in the architectural styles of the Old World, but with a history so brief as ours one might expect a greater uniformity of type in any given place. However, even a city like San Antonio, Texas, which remained a frontier town longer than most American cities, exhibits a succession of architectural types. One of these immediately preceded the Classic manner introduced at the beginning of the nineteenth century,



AN INTERESTING STUDY OF THE DIFFERENT TYPES OF CONSTRUCTION.

and is seen mostly in small cottages built either by the Spanish settlers or by others who followed the traditions established by them. Simple as these little buildings are, they show unmistakable evidence of the Moorish influence that was dominant in Spain.

The construction of the cottages varies considerably. The cheapest are built like the *jacals* of the Mexican peons, with a framework of posts and sticks, which is plastered over with adobe clay and finished with a coating of white cement plaster. Another type is built of brick or blocks of sun-dried adobe, and a third is of rough stone construction. These also, like the *jacal* type, are finished with a coating of white plaster.

One of the accompanying illustrations furnishes an interesting study of the different types of construction. The first house in the group has the framework of sticks and was evidently built originally with a flat roof, the slant roof, with its gable of clapboards, having been added later. The dilapidated condition of the plaster affords an opportunity for examining the construction of the walls. Next to this is a stone house on which the end walls have been carried up into a gable for a slant roof.



QUITE A PART OF THIS PRIMITIVE HOUSE ARE THE STONE STEPS.



THEY ARE PICTURESQUE AND ARE THE DELIGHT OF VISITORS FROM THE NORTH.



A DISTINCTLY SPANISH COTTAGE.



THE OLD ROOF LINE HAS BEEN PRESERVED THOUGH OLD MATERIAL HAS GIVEN WAY TO NEW.



SIMPLICITY IS THE SECRET OF THEIR ATTRACTIVENESS.

Here again the peeling plaster reveals the crude masonry of which the walls were constructed. The third house is either new or has been replastered recently, and gives an excellent idea of the original appearance of the others.

It is quite possible that some of the earlier houses with sloping roofs may have been covered with thatch, for it is used quite commonly by the Mexicans along the border today. The flat roofs, which were much more common if one may judge from old illustrations, were probably made of a thick layer of clay, packed closely on a foundation of sticks and branches supported on heavy wooden beams. These primitive materials have given way long since to the less picturesque but more dependable, or at least more easily applied, sheet iron and shingles.

The little structures may not be regarded as possessing great architectural interest, but they are picturesque and are the delight of visitors from the North. The thick walls make them durable and they are of course fireproof. They are extremely comfortable, being cool in summer and easy to heat during the winter months. Their very simplicity is the secret of their attractiveness; and when covered with vines and surrounded by flowers they possess undoubted charm.

I. T. Frary.

Review of "Decorated Wooden Ceilings in Spain."

The book on "Decorated Wooden Ceilings in Spain," by Arthur Byne and Mildred Stapley, published by The Hispanic Society, is a treasure house. It is surprising to find such a wealth of material from a source apparently so limited in scope and so little known. The material is not only voluminous but extremely varied.

The ceilings of Spain are divided into several types: wood vaults, trussed ceilings, beamed, panelled and coffered ceilings as well as the stalactite ceilings of Moorish design. It is, however, the unusual treatment and the original and little known details and decorations that make this book one of preëminent interest.

Spanish art is in general bold, one might even say crude. It is vivid, brilliant and imaginative. It does not lack beauty or suavity, but these are not characteristics which make a dominant impression. The examples illustrated in the book create and strengthen this impression. Not only may this be noted in the general design but in the detail and the color.

The work is thorough and scholarly. The history of the design, construction, and some notes on the workmen, the general relation to Spanish art and classification, and the periods of the various ceilings are thoroughly discussed. The book is, however, to be chiefly commended for its illustrations. There is, I think, far too much scholarly discussion and criticism of an abstract nature on subjects of artistic interest, of painting, sculpture, architecture and the allied arts; subjects whose appeal is chiefly to the eye. It is the physical appearance of the object of art that is of primary importance, and here the book excels. The beautiful examples are numerous, they are carefully selected and each one is most thoroughly shown. In most examples one finds a general photograph, details, a drawing to scale, and in some examples color plates of great beauty. How I shudder to think of the old German *relévés* of the Pompeian and Italian decoration in color. Probably the original drawings of the illustration of this book are much better than the old ones, for Mr. Byne is a highly trained artist and connoisseur as well as a careful and faithful student. The modern printing methods have also improved over the older color plates. Be that as it may, the book is much better done than any other of the kind that I know.

Every kind of detail has been carefully illustrated. One has a feeling of a great view over the whole realm of Spanish art and history through the perfection of the presentation of this limited subject. The ceilings, of course, are related to the plan of the buildings, and this relation is clearly brought out. Thus from some examples one gets an insight into the plan, the theory and shape of many types of building. The color and decorative design and the methods of painting are thoroughly described and from this one gets a most interesting point of view of Spanish painting of the period. The same may be said of the social life of the country, and even its geography. It is like the view of Rome through the keyhole of the gate of the Villa of the Knights of Malta.

The only way to get the value of the book is to read it, reread it and study it, and this is well worth while. Many a book is taken for granted on the strength of a review, but in this case it is impossible. It is well worth getting and keeping for one's self.

The descriptions of the color are so illuminating, so crisp and so simple that the photographs appear to glow as one looks at them. For example, of the beamed ceiling of the

cloister of Santo Domingo de Silos Mr. Byne says:

"Structurally the ceiling is of simple beamed form. . . . It is entirely devoid of carving, thus not tempting comparison with the oriental-looking capitals below. Painting alone was to be its embellishment: therefore even the surface of the wood received no other preparation than the preliminary coat of size and thin yeso or plaster wash.

"The process is tempera. Colors are applied flat with no modeling, nor is there any perspective in the drawing. Beam and panel-soffits are treated with conventional designs, while story-telling scenes occur only on the vertical planes such as beam-sides and frieze-board. As apparently the painting was done for the delectation of the friars, these must have been grateful for this logical arrangement, as opposed to the neck-breaking system of painting the most interesting themes on the horizontal portion thereby overhead. . . . The scale is small and would be much to the detriment of the work were it not that the covering is low and receives the light of all outdoors from the open quadrangle.

"Color scheme: Four colors only are used —red, blue, green and yellow. As in heraldic painting, no two colors were permitted to touch. The separation is accomplished by an intervening line of black or white which, where the pattern is condensed, is nothing more than a line of scoring, but which at times widens out to an inch or more, effectively treated in black and white squares, dots, or dogtooth. This same method serves to frame the little triangular scenes on the beamsides; when thus broken in contour, the frame resembles so many dominoes laid end to end. Their backgrounds are alternately red and green. This same color combination serves for the field of the soffit-panels, which are slightly set back, the reveal treated in black and white. The underside of the master-beams is green enlivened with scoring; that of the secondary tier is yellow ochre. Here the sides are Indian red and devoid of patterning."

And again, referring to the ceiling of the Infantado Palace at Guadalajara, he says:

"Structurally the ceiling is of the beamed type: its area, some thirty by forty feet square. The beams are heavy, eight by ten inches, and are set close together—only nine inches in the clear, between. The curious feature is that the place of transverse strips is taken by heavy twisted cords of gold. These, laid in pairs, divide the spaces between beams into seven long panels, filled with painted Renaissance design. The same themes are repeated on the soffits of the beams. The applied gold rosettes are of pierced Gothic carving and are irregularly placed, interrupting the design at will. Another Gothic touch is the little row of dots on the panel reveals: in fact this medieval hold-over never completely disappeared from Spanish work.

"Color scheme: The painted decoration is confined to three colors—red and black for background, silver gray for patterning. Every panel is divided lengthwise by the abrupt change from a red to a black ground, the gray design taking no note of the change. All rosettes and twisted cords are heavily gilded. The sides of the beams and the wall space between the ends are decorated with a row of little pointed arches: these, consistent with the rest of the scheme, are alternately black and red, the design within the arch always gray. The frieze is of plaster."

How I wish that the decorative painters and architects of this country—of this time —had the sense of color of the early Renaissance period. We have so many technical advantages over them, so much more technical knowledge, so much more theory, but the imagination seems to be lacking. Think of any of our best painted ceilings, in private houses, the public libraries, the apartment houses, theatres and restaurants and compare them with any of the examples in this book. The result of the comparison is pitiable.

A ceiling is the part of a room that is least insistent, yet for that very reason it gives a most delightful feeling. In an unobtrusive way it can dominate and give a subtle impression to the occupant of a room in a way that nothing else can. If, for example, a room is to be used as a background for fine paintings, tapestries, or decorative objects, a rich treatment of the ceiling will give such an impression of luxury to the room that the walls may be left absolutely plain, a perfect background for the objects to be placed against them.

WILLIAM LAWRENCE BOTTOMLEY.

New Safety Code for Elevators Now Procurable

During the past five years industrial boards and commissions in many States, the Bureau of Standards, the American Institute of Architects, insurance companies and manufacturers have coöperated with the committee of the American Society of Mechanical Engineers towards the preparation of a standardized safety code for elevators, which, it is expected, will in time be accepted as standard by every State and municipality in the country.

At the present time elevator builders must

consult city ordinances or State codes with regard to allowable speeds, factors of safety of machines, cables, sizes, safety devices permitted, size of guide rails and innumerable other details. This makes every installation practically a special order, adding enormously to cost of production and consequently to the price paid by the consumer. The nation-wide adoption of a uniform safety code in which every theoretical and practical point of construction and installation has been passed upon by exhaustive test, will be of great service to the architectural profession. Copies of the code, price 65c., may be obtained from the American Society of Mechanical Engineers, 29 West 39th St., New York.

The Architectural Record:

Inadvertently an error was made in regard to the Le Brun Scholarship Fund. The scholarship was established by Mr. Pierre L. Le Brun in 1910 and not by Mr. Michel Le Brun. Will you be kind enough to make mention of the correction in your subsequent issues.

Yours very truly,
JULIAN CLARENCE LEVI,
Chairman,
Le Brun Scholarship Committee, New York Chapter of the American Institute of Architects.

Architects and architectural draftsmen who are interested in the competition for designs of entrance and screen doors, instituted by the Victor Parting Bead Co., of Reading, Pa., are notified that the closing date has been extended until June 30th, making an additional 30 day period in which to submit designs.

International Housing Congress

The International Housing Congress will be held in Rome from September 21st to 26th. The program is given here:

1. General situation of the housing problem in the various countries, especially as regards cheap houses for the people, since the International Congress held at The Hague (September, 1913).

2. State action and intervention in order to meet the insufficiency of houses and lodgings. Special and necessary contributions and efforts to be made to make up the difference between interest on invested capital and house rent.

3. Uniformity of terminology for the purpose of facilitating statistical comparisons. Studies and reports on the most suitable means and efforts to solve the various housing problems.

4. Suggestions, communications and demonstrations concerning the various materials to be used and the selection of building systems, with a view to reducing as much as possible the cost of houses, not neglecting, however, the aesthetical feature of the house.

The Executive Committee will be very glad to receive prints, publications, drawings, etc., which will represent the best recent work in housing in this country.

The fee for membership to the Congress is 50 Italian lire. Address: Executive Committee, 101 Via del Clementino, Rome.

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